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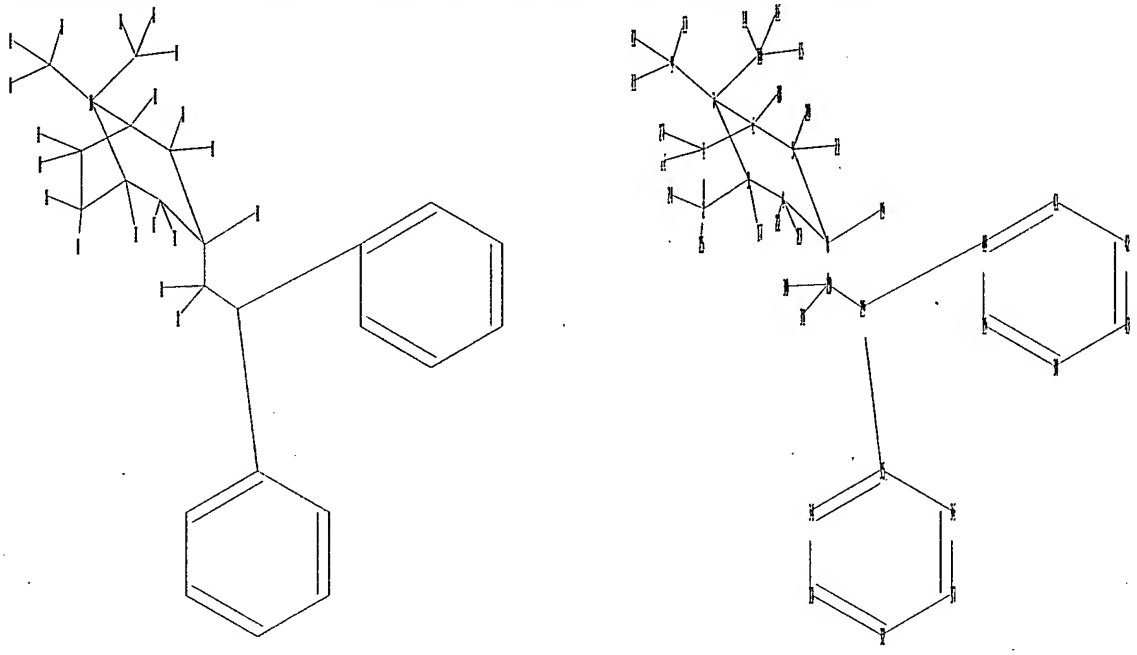
REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10565049_specific.str



chain nodes :
9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
ring nodes :
1 2 3 4 5 6 7 8 32 33 34 35 36 37 38 39 40 41 42 43
chain bonds :
1-26 1-27 2-24 2-25 3-17 4-22 4-23 5-20 5-21 6-18 7-9 7-10 8-19 8-28 9-11 9-12 9-13 10-14 10-15 10-16 28-29 28-30 28-31 29-40 29-35
ring bonds :
1-2 1-6 2-3 3-4 3-7 4-8 5-6 5-8 6-7 32-33 32-37 33-34 34-35 35-36 36-37 38-39 38-43 39-40 40-41 41-42 42-43
exact/norm bonds :
1-2 1-6 2-3 3-4 3-7 4-8 5-6 5-8 6-7 7-9 7-10
exact bonds :
1-26 1-27 2-24 2-25 3-17 4-22 4-23 5-20 5-21 6-18 8-19 8-28 9-11 9-12 9-13 10-14 10-15 10-16 28-29 28-30 28-31 29-40 29-35
normalized bonds :
32-33 32-37 33-34 34-35 35-36 36-37 38-39 38-43 39-40 40-41 41-42 42-43

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS
21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS

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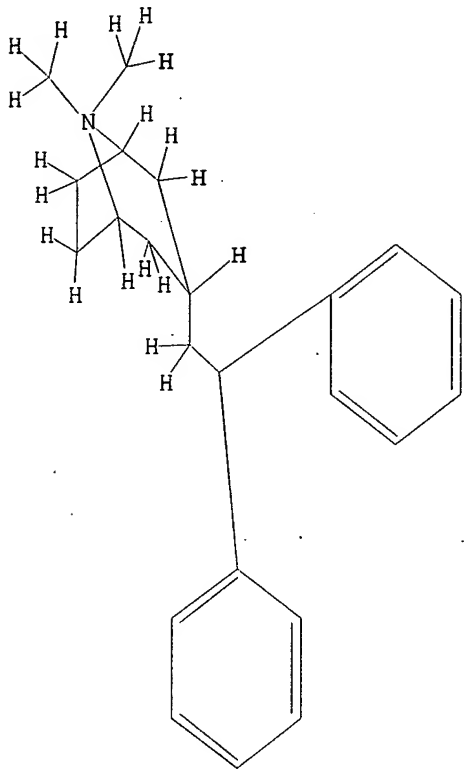
31:CLASS 32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 37:Atom 38:Atom 39:Atom
40:Atom 41:Atom
42:Atom 43:Atom

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1
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SAMPLE SCREEN SEARCH COMPLETED - 5 TO ITERATE

100.0% PROCESSED 5 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 5 TO 234
PROJECTED ANSWERS: 1 TO 80

L2 1 SEA SSS SAM L1

=> s l1 full

Print selected from 10565049_Specific.trn

FULL SEARCH INITIATED 07:36:31 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 95 TO ITERATE

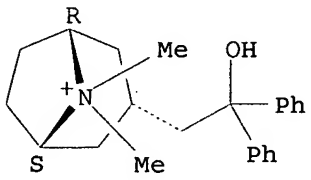
100.0% PROCESSED 95 ITERATIONS 19 ANSWERS
SEARCH TIME: 00.00.01

L3 19 SEA SSS FUL L1

=> d scan

L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C23 H30 N O . Br

Relative stereochemistry.

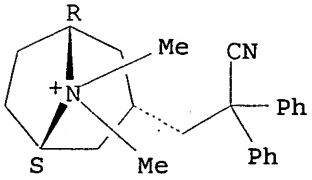


● Br^-

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):20

L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C24 H29 N2
CI COM

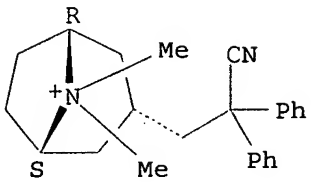
Relative stereochemistry.



L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI)
MF C24 H29 N2 . I

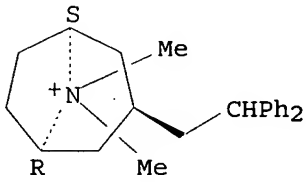
Relative stereochemistry.

Print selected from 10565049_Specific.trn

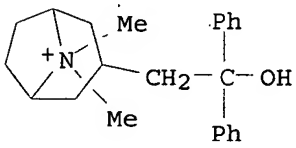


L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C23 H30 N
CI COM

Relative stereochemistry.



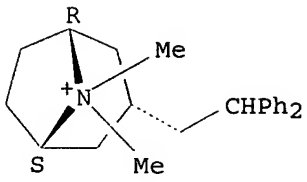
L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl- (9CI)
MF C23 H30 N O
CI COM



L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C23 H30 N . Br

Relative stereochemistry.

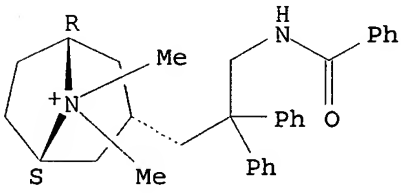
Print selected from 10565049_Specific.trn



● Br⁻

L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C31 H37 N2 O . Br

Relative stereochemistry.

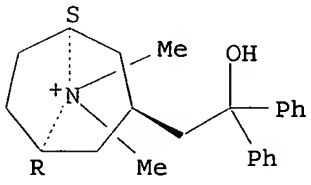


● Br⁻

L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI)
MF C23 H30 N O . C7 H7 O3 S

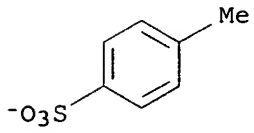
CM 1

Relative stereochemistry.



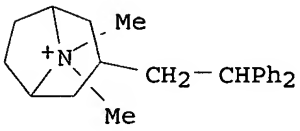
CM 2

Print selected from 10565049_Specific.trn

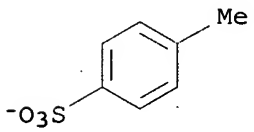


L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2,2-Diphenylethyl)-8-methyltropanium p-toluenesulfonate (6CI)
MF C23 H30 N . C7 H7 O3 S

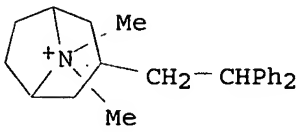
CM 1



CM 2



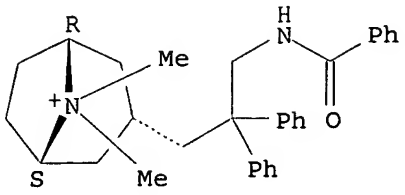
L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2,2-Diphenylethyl)-8-methyltropanium bromide (6CI)
MF C23 H30 N . Br



L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, (3-endo)- (9CI)
MF C31 H37 N2 O
CI COM

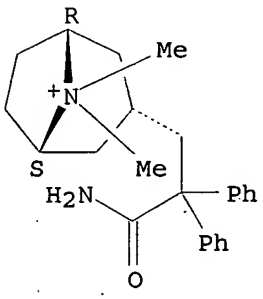
Relative stereochemistry.

Print selected from 10565049_Specific.trn



L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI)
MF C24 H31 N2 O . I

Relative stereochemistry.

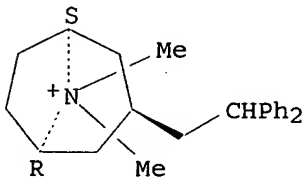


● I-

L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI)
MF C23 H30 N . C7 H7 O3 S

CM 1

Relative stereochemistry.



CM 2

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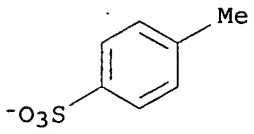
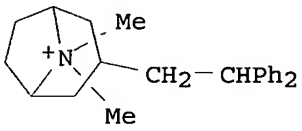
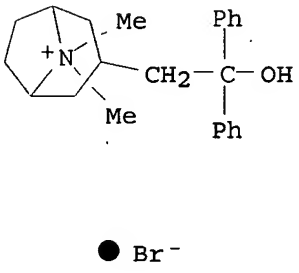


L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl- (9CI)
MF C23 H30 N
CI COM



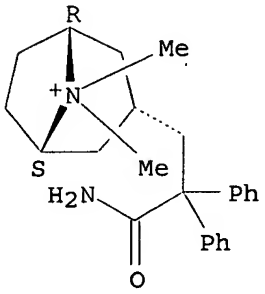
L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2-Hydroxy-2,2-diphenylethyl)-8-methyltropanium bromide (6CI)
MF C23 H30 N O . Br



L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C24 H31 N2 O
CI COM

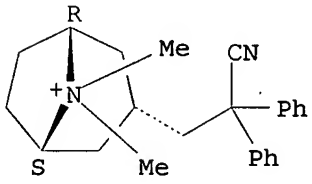
Relative stereochemistry.

Print selected from 10565049_Specific.trn



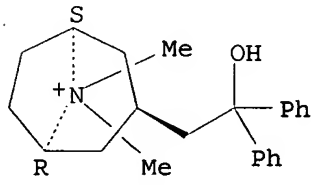
L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C24 H29 N2 . Br

Relative stereochemistry.



L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C23 H30 N O
CI COM

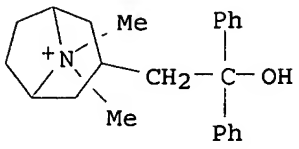
Relative stereochemistry.



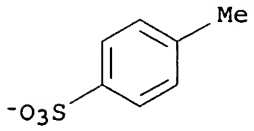
L3 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2-Hydroxy-2,2-diphenylethyl)-8-methyltropanium p-toluenesulfonate (6CI)
MF C23 H30 N O . C7 H7 O3 S

CM 1

Print selected from 10565049_Specific.trn



CM 2



ALL ANSWERS HAVE BEEN SCANNED

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.10	172.31

FILE 'STNGUIDE' ENTERED AT 07:36:51 ON 21 FEB 2007
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COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Feb 16, 2007 (20070216/UP).

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.12	172.43

FILE 'CAPLUS' ENTERED AT 07:38:10 ON 21 FEB 2007
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907 - 21 Feb 2007 VOL 146 ISS 9
FILE LAST UPDATED: 19 Feb 2007 (20070219/ED)

Print selected from 10565049_Specific.trn

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l3
L4 4 L3

=> d bib abs hitstr

L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:369284 CAPLUS <<LOGINID::20070221>>
DN 142:423894
TI 8-Methyl-8-azabicyclo[3.2.1]octane derivative muscarinic acetylcholine receptor antagonists, their preparation, and their therapeutic use
IN Busch-Petersen, Jakob; Palovich, Michael R.; Wan, Zehong; Yan, Hongxing; Zhu, Chongjie
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005037280	A1	20050428	WO 2004-US33638	20041012
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	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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	EP 1677795	A1	20060712	EP 2004-794886	20041012
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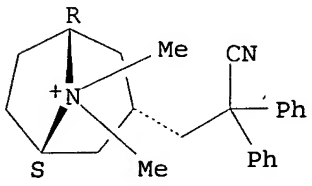
	CN 1893948	A	20070110	CN 2004-80037266	20041012
	NO 2006002042	A	20060508	NO 2006-2042	20060508
PRAI	US 2003-511009P	P	20031014		
	WO 2004-US33638	W	20041012		

OS MARPAT 142:423894
AB 8-Methyl-8-azabicyclo[3.2.1]octane derivative muscarinic acetylcholine receptor antagonists are provided. Compound preparation is included. Compds. of the invention may be used to treat muscarinic acetylcholine receptor-mediated diseases.
IT **850607-57-7P 850607-58-8P 850607-61-3P 850607-71-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(azabicyclooctane derivative muscarinic acetylcholine receptor antagonists, preparation, and therapeutic use)
RN 850607-57-7 CAPLUS

Print selected from 10565049_Specific.trn

CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

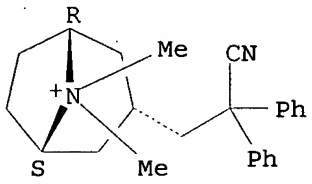
Relative stereochemistry.



● I^-

RN 850607-58-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

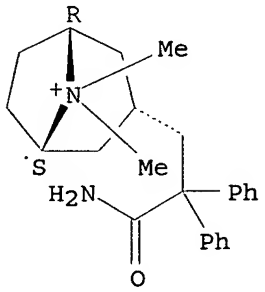
Relative stereochemistry.



● Br^-

RN 850607-61-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

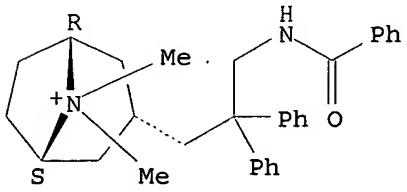


● I^-

Print selected from 10565049_Specific.trn

RN 850607-71-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● Br^-

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 1-4

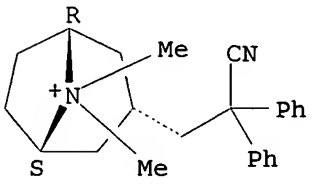
L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:369284 CAPLUS <<LOGINID::20070221>>
DN 142:423894
TI 8-Methyl-8-azabicyclo[3.2.1]octane derivative muscarinic acetylcholine receptor antagonists, their preparation, and their therapeutic use
IN Busch-Petersen, Jakob; Palovich, Michael R.; Wan, Zehong; Yan, Hongxing; Zhu, Chongjie
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005037280	A1	20050428	WO 2004-US33638	20041012
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004281724	A1	20050428	AU 2004-281724	20041012
CA 2542657	A1	20050428	CA 2004-2542657	20041012
EP 1677795	A1	20060712	EP 2004-794886	20041012
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR				
BR 2004015361	A	20061212	BR 2004-15361	20041012
CN 1893948	A	20070110	CN 2004-80037266	20041012
NO 2006002042	A	20060508	NO 2006-2042	20060508

Print selected from 10565049_Specific.trn

PRAI US 2003-511009P P 20031014
WO 2004-US33638 W 20041012
OS MARPAT 142:423894
AB 8-Methyl-8-azabicyclo[3.2.1]octane derivative muscarinic acetylcholine receptor antagonists are provided. Compound preparation is included. Compds. of the invention may be used to treat muscarinic acetylcholine receptor-mediated diseases.
IT **850607-57-7P 850607-58-8P 850607-61-3P 850607-71-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(azabicyclooctane derivative muscarinic acetylcholine receptor antagonists, preparation, and therapeutic use)
RN 850607-57-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

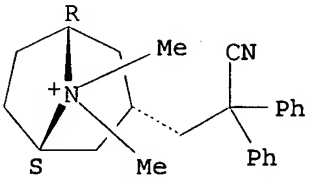
Relative stereochemistry.



● I^-

RN 850607-58-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

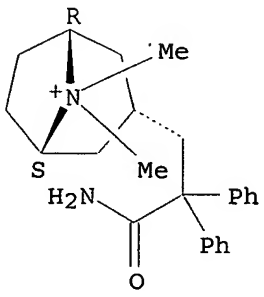


● Br^-

RN 850607-61-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

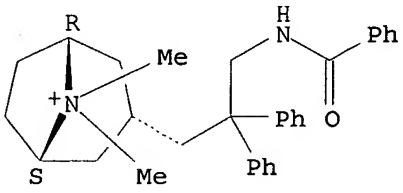
Print selected from 10565049_Specific.trn



● I^-

RN 850607-71-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● Br^-

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:99316 CAPLUS <<LOGINID::20070221>>
DN 142:183475
TI Muscarinic acetylcholine receptor antagonists
IN Belmonte, Kristen E.; Busch-Petersen, Jakob; Laine, Dramane; Palovich, Michael R.
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005009362	A2	20050203	WO 2004-US23041	20040716
	WO 2005009362	A3	20050407		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,

Print selected from 10565049_Specific.trn

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	AU 2004259238	A1	20050203	AU 2004-259238	20040716
	CA 2532433	A1	20050203	CA 2004-2532433	20040716
	EP 1648461	A2	20060426	EP 2004-778509	20040716
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR				
	CN 1822839	A	20060823	CN 2004-80020652	20040716
	BR 2004012537	A	20060919	BR 2004-12537	20040716
	US 2006178396	A1	20060810	US 2006-565048	20060117
	NO 2006000777	A	20060411	NO 2006-777	20060217
PRAI	US 2003-487982P	P	20030717		
	WO 2004-US23041	W	20040716		

OS MARPAT 142:183475

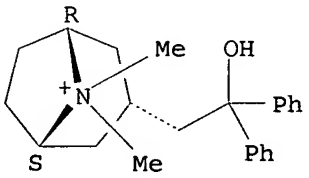
AB Muscarinic acetylcholine receptor antagonists, e.g., (3-endo)-3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and methods of using them are provided. In addition a pharmaceutical composition for the treatment of muscarinic acetylcholinereceptor-mediated diseases comprising the above compound is disclosed.

IT **106655-98-5 834882-85-8**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic acetylcholine receptor antagonists)

RN 106655-98-5 CAPLUS

CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● Br^-

RN 834882-85-8 CAPLUS

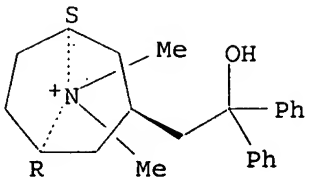
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 805224-99-1
CMF C23 H30 N O

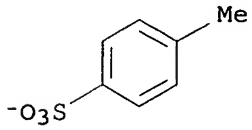
Relative stereochemistry.

Print selected from 10565049_Specific.trn



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



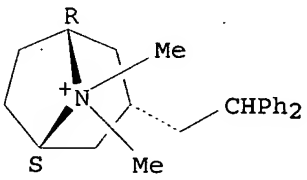
L4 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:96456 CAPLUS <<LOGINID::20070221>>
DN 142:183437
TI Muscarinic acetylcholine receptor antagonists
IN Belmonte, Kristen E.; Busch-Petersen, Jakob; Laine, Dramane; Palovich, Michael R.
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005009440	A1	20050203	WO 2004-US23042	20040716
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2004259239	A1	20050203	AU 2004-259239	20040716
	CA 2532379	A1	20050203	CA 2004-2532379	20040716
	EP 1648462	A1	20060426	EP 2004-778510	20040716
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR				
	CN 1822840	A	20060823	CN 2004-80020653	20040716
	BR 2004012679	A	20061003	BR 2004-12679	20040716
	US 2006160844	A1	20060720	US 2006-565049	20060117
	NO 2006000776	A	20060411	NO 2006-776	20060217
PRAI	US 2003-488061P	P	20030717		

Print selected from 10565049_Specific.trn

WO 2004-US23042 W 20040716
OS MARPAT 142:183437
AB Muscarinic acetylcholine receptor antagonists, e.g., (3-endo)-3-(2,2-diphenylethyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and methods of using them are provided. In addition a pharmaceutical composition for the treatment of muscarinic acetylcholinereceptor-mediated diseases comprising the above compound is disclosed.
IT **106655-97-4 834881-83-3**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic acetylcholine receptor antagonists)
RN 106655-97-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



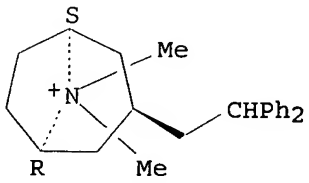
● Br^-

RN 834881-83-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 805224-98-0
CMF C23 H30 N

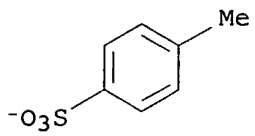
Relative stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

Print selected from 10565049_Specific.trn



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1963:27160 CAPLUS <<LOGINID::20070221>>
DN 58:27160
OREF 58:4510b-h
TI 3-Substituted tropane derivatives. III. 3-Substituted tropane carbinols, alkenes, and alkanes
AU Zirkle, Charles L.; Anderson, Elvin L.; Craig, Paul N.; Gerns, Fred R.; Indik, Zena K.; Pavloff, Alex M.
CS Smith, Kline, & French Labs., Philadelphia, PA
SO Journal of Medicinal & Pharmaceutical Chemistry (1962), 5, 341-56
CODEN: JMPCAS; ISSN: 0095-9065
DT Journal
LA Unavailable
OS CASREACT 58:27160
GI For diagram(s), see printed CA Issue.
AB cf. CA 57, 3389b. For testing as cholinolyti: agents, a series of 3-substituted tropane derivs. (Ia) were prepared by the following sequence: (X = 3α-, or 3β-tropinyl) X(CH2)nCO2Me → X(CH2)nCOR (I) → X(CH2)nC(OH)RR' (II) → X: CRR' (III), XCH:CRR' (IV), or XCH2CH:CRR' (V) → X(CH2)nCHRR' (VI) using the procedures followed by Adamson for open-chain analogs (Adamson, et al., CA 45, 8462f). Compds. prepared were (compound number, tropinyl group configuration, n, R, R', % yield, m.p., b.p./pressure, n25D, salts prepared with m.p. of each, and relative activity (atropine = 1) given): I, α, 0, 2-thienyl, --, 4.4, --, 142-3°/ 0.4, --, picrate 259°, --; I, α, 1, Ph, --, 75,--, 140-3°/0.2,--, HCl 140-3°, --; I, α, 1, cyclohexyl, --, 35, --, 142-4°/0.8, --, picrate 165-8°, MeBr 297-9°, --; I, α, 1, 2-cyclohexylethyl, --, 74, --, 157-64°/0.7, 1.5010, picrate 148-50°, --; I, α, 2, Et, --, 77, --, 105-9°/0.35, 1.4870, picrate 123.0-4.5°, --; II, β, O, Me, Me, 84, --, 116-19°/4, --, picrate 167.5-9.0°, MeI 199-202°, --; II, α, O, 2-thienyl, 2-thienyl, 8.0, 157.5-9.0°,--,--,--,--; II, α, O, Ph, Ph, 47, 185.5-6.0°, --, --, HCl 290°, citrate 112-18% picrate 214.0-15.5°, MeBr 309-10°, citrate 0.001, MeBr salt 0.1; II, β, O, Ph, Ph, 86, 182-4°,--,--, HCl 325°, picrate 230-1°, HCl salt 0.001; II, α, 1, Ph, Ph, 76, 147-8°, --, --, HCl 235°, HBr 230°, MeBr 282°, HCl salt 1, MeBr salt 0.1-1.0; II, β, 1, Ph, Ph, --, 178-9°, --, --, HCl 253.5°, HCl salt 0.001; II, α, 1, cyclohexyl, Ph, 90, 139.0-40.5°,--,--, HCl 254-5°, MeBr 262°, HCl salt 0.1; II, α, 1, 2-cyclohexylethyl, Ph, above 66, 104-6°,--,--, HCl 215-16°, citrate 134-6°, MeBr 263-5°, HCl salt 0.01; II, α, 1, Ph, Et, 12, --, --, --, HCl 237°, HCl salt 0.01-0.10; II, α, 1, 2-pyridyl, Ph, 64, 117.5-18.5°, --, --, HI 194-6°, dipicrate 191-2°, MeBr 268°, HI salt 0.01; II, α, 1, Ph, 2-thienyl, 73, 137.5-9.0°,--,--, maleate 145-6°, MeBr 256°, maleate 1; II, α, 1,2-thienyl, 2-thienyl, 69, 138-40°, --, --, HOAc 189-90°, MeBr 245.5°, HOAc salt 1; II, α, 2, Ph, Ph, 92, 142-3°, --,

Print selected from 10565049_Specific.trn

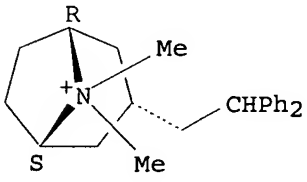
--, HCl 249-50°, MeBr 299°, HCl salt 0.01, MeBr salt 0.1; III, --, --, Ph, Ph,--,--,--,--,HCl 275-8°, picrate 237-8°, MeBr 281-5°, HCl salt 0.01, MeBr salt 0.1-1.0; III,--,--, 2-thienyl, 2-thienyl, 76 --,--,-- HCl 224-5°, --; IV, α, --, Ph, Ph, 100, 111-12°, --, --, HCl 217-18°, picrate 186-8°, MeBr 286° HCl salt 1-10, MeBr salt 0.1-1.0; IV, α --, cyclohexyl, Ph, 95,--,--,--, HCl 195-6°, HI 222.5-4.0°, MeBr 250-5° HCl salt 1; IV, α, --, Ph, Et,--,--,--,--, HCl 214-15°, --; IV, α, --, Ph, 2-pyridyl, 78, 97.5-9.5, --, -- tartrate 165-7°, picrate 204-6°, MeBr 227-8°, --; IV, α, --, Ph, 2-thienyl, 96, 65-70, --, --, HCl 194-200° tartrate 174-5° picrate 209-10°, MeBr 258-9°, tartrate 0.1-1.0; IV, α, --, 2-thienyl, 2-thienyl, 76,--,--,--, HCl 230-2°,picrate 190-2°, MeBr 252-3°, HCl salt 1; V, α, --, Ph, Ph, --,--,--, citrate 174°, MeBr 280°, citrate 0.001, MeBr salt 0.01; VI, α, O, Me, Me, -- --, 109-11°/29, 1.4739, HCl 194- 6% MeI 224-6°,--; VI, α, O, Ph, Ph,--, 70-2°,--,--, HCl above 310°, MeBr 277-8°, HCl 0.01, MeBr salt 0.1; VI, α, 1,Ph, Ph,--,--,--,--, HCl 244-5°, MeBr 257-8° HCl salt 1-10, MeBr 1; VI, α, 1, cyclohexyl, Ph,--,--,--,--, HCl 167.0-8.5°, citrate 153-5°, picrate 140-1°, MeBr 259-60°, citrate 0.1-1.0; VI, α, 1, 2-cyclohexylethyl, Ph,--,--,--,--, HCl 198-200°. --; VI, α, 1, Ph, 2-pyridyl,--,--,--,--, tartrate 78-80°picrate 201-3°, --; and VI, α, 2, Ph, Ph,--,--,--,--, citrate 170°, MeBr 277°, citrate 0.001-0.010, MeBr salt 0.01.

IT **106655-97-4P**, 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide **106655-98-5P**, 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide
RL: PREP (Preparation)
(preparation of)

RN 106655-97-4 CAPLUS

CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



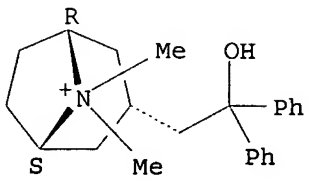
● Br^-

RN 106655-98-5 CAPLUS

CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

Print selected from 10565049_Specific.trn



=> FIL STNGUIDE

Print selected from 10565049_Specific.trn

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=> s l13
           943 ANTICHOLINERGICS
          3031 COPD
            16 COPDS
          3044 COPD
                 (COPD OR COPDS)
L14          49 ANTICHOLINERGICS AND COPD

=> s l14 and review /Dt
       2002897 REVIEW /DT
L15          35 L14 AND REVIEW /DT

=> d scan

L15   35 ANSWERS   CAPLUS  COPYRIGHT 2007 ACS on STN
CC    1-0 (Pharmacology)
TI    Anticholinergics: Tiotropium
ST    review tiotropium Spiriva anticholinergic bronchodilator COPD
IT    Bronchodilators
      Cholinergic antagonists
         (anticholinergic bronchodilating effect of tiotropium in humans with
         chronic obstructive pulmonary disease (COPD))
IT    Lung, disease
         (chronic obstructive; anticholinergic bronchodilating effect of
         tiotropium in humans with chronic obstructive pulmonary disease (
         COPD))
IT    60205-81-4, Ipratropium   136310-93-5, Spiriva
      RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or
      effector, except adverse); BPR (Biological process); BSU (Biological
      study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC
      (Process); USES (Uses)
         (anticholinergic bronchodilating effect of tiotropium in humans with
         chronic obstructive pulmonary disease (COPD))

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L15   35 ANSWERS   CAPLUS  COPYRIGHT 2007 ACS on STN
CC    1-0 (Pharmacology)
      Section cross-reference(s): 2
TI    Fixed combination of a long-acting β2-agonist and an inhaled steroid.
      A therapeutic option for COPD?
ST    review beta agonist inhaled steroid combination COPD
IT    Lung, disease
         (chronic obstructive pulmonary disease; fixed combination of
         long-acting β2-agonist and inhaled steroid for  COPD)
IT    Human
      β2-Adrenoceptor agonists
         (fixed combination of long-acting β2-agonist and inhaled steroid
         for COPD)
IT    Steroids, biological studies
      RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (fixed combination of long-acting β2-agonist and inhaled steroid
         for COPD)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L15   35 ANSWERS   CAPLUS  COPYRIGHT 2007 ACS on STN
CC    1-0 (Pharmacology)
TI    Treatment of stable chronic obstructive pulmonary disease
ST    review chronic obstructive pulmonary disease bronchodilator glucocorticoid
```

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lung
IT Bronchodilators
(bronchodilators β agonists, **anticholinergics**, theophylline alone or in combination, inhaled glucocorticoids used effectively in pharmacotherapy of chronic obstructive pulmonary disease patient, and needs treatment of co-morbidities)
IT Lung, disease
(chronic obstructive pulmonary disease; β agonists, **anticholinergics**, theophylline alone or in combination, inhaled glucocorticoids used effectively in pharmacotherapy of chronic obstructive pulmonary disease patient, and needs treatment of co-morbidities, depression, anxiety)
IT Cholinergic antagonists
Combination chemotherapy
Human
Lung
β-Adrenoceptor agonists
(β agonists, **anticholinergics**, theophylline alone or in combination, inhaled glucocorticoids used effectively in pharmacotherapy of chronic obstructive pulmonary disease patient, and needs treatment of co-morbidities, depression, anxiety)
IT Glucocorticoids
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β agonists, **anticholinergics**, theophylline alone or in combination, inhaled glucocorticoids used effectively in pharmacotherapy of chronic obstructive pulmonary disease patient, and needs treatment of co-morbidities, depression, anxiety)
IT 58-55-9, Theophylline, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β agonists, **anticholinergics**, theophylline alone or in combination, inhaled glucocorticoids used effectively in pharmacotherapy of chronic obstructive pulmonary disease patient, and needs treatment of co-morbidities, depression, anxiety)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L15 35 ANSWERS CAPLUS COPYRIGHT 2007 ACS on STN
CC 1-0 (Pharmacology)
TI **Anticholinergics**: Basic pharmacology
ST review airway disease acetylcholine chronic obstructive pulmonary disease anticholinergic; ipratropium bromide muscarine receptor antagonist respiratory disease review
IT Muscarinic receptors
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(M3, antagonist; **anticholinergics** for treatment of airway disease were not selective for M3 muscarinic receptors but new compds. showing high selectivity for M3 subtype over M2 receptor may block contractile activity of ACh in **COPD** patient)
IT Lung, disease
(chronic obstructive pulmonary disease; current **anticholinergics** for treatment of airway disease were not selective for M3 muscarinic receptors but new compds. showing high selectivity for M3 subtype over M2 receptor may block contractile activity of ACh in **COPD** patient)
IT Cholinergic antagonists
Lung
Respiratory system, disease
(current **anticholinergics** for treatment of airway disease were not selective for M3 muscarinic receptors but new compds. showing

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Print selected from 10565049_Specific.trn

        high selectivity for M3 subtype over M2 receptor may block contractile
        activity of ACh in COPD patient)
IT   Drug targets
     Human
        (non-selective muscarine receptor antagonist ipratropium bromide which
        blocks M2 as well as M1 and M3 receptors was useful in treatment of
        patient with chronic obstructive pulmonary disease)
IT   51-84-3, Acetylcholine, biological studies
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (current anticholinergics for treatment of airway disease
        were not selective for M3 muscarinic receptors but new compds. showing
        high selectivity for M3 subtype over M2 receptor may block contractile
        activity of ACh in COPD patient)
IT   22254-24-6, Ipratropium bromide
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (non-selective muscarine receptor antagonist ipratropium bromide which
        blocks M2 as well as M1 and M3 receptors was useful in treatment of
        patient with chronic obstructive pulmonary disease)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> d his

     (FILE 'HOME' ENTERED AT 09:00:08 ON 21 FEB 2007)

     FILE 'CAPLUS' ENTERED AT 09:00:26 ON 21 FEB 2007
L1          324 S CHOLINERGIC AND INHALATION
L2            1 S L1 AND TROPANE
L3            3 S L1 AND TROP?
L4          184 S L1 AND ?TROP?
L5           12 S L4 AND REVIEW/DT
L6           10 S L5 AND BRONCHODILATORS
L7            1 S L6 AND HISTORICAL

     FILE 'STNGUIDE' ENTERED AT 09:05:59 ON 21 FEB 2007
L8            0 S  ANTICHOLINERGIC BRONCHODILATORS

     FILE 'CAPLUS' ENTERED AT 09:08:46 ON 21 FEB 2007
L9           23 S L8
L10          11 S L9 AND REVIEW/DT
L11           0 S L10 AND AMMONIUM
L12           0 S L10 AND AMMO?

     FILE 'STNGUIDE' ENTERED AT 09:10:55 ON 21 FEB 2007
L13           0 S ANTICHOLINERGICS AND COPD

     FILE 'CAPLUS' ENTERED AT 09:13:35 ON 21 FEB 2007
L14          49 S L13
L15          35 S L14 AND REVIEW /DT

=> s l15 and muscarinic
         25622 MUSCARINIC
            13 MUSCARINICS
         25624 MUSCARINIC
                  (MUSCARINIC OR MUSCARINICS)
L16           7 L15 AND MUSCARINIC

=> d bib abs KWIC

L16  ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2007 ACS on STN
```

Print selected from 10565049_Specific.trn

AN 2006:733889 CAPLUS <<LOGINID::20070221>>
DN 145:373580
TI **Muscarinic** receptor signaling in the pathophysiology of asthma and **COPD**
AU Gosens, Reinoud; Zaagsma, Johan; Meurs, Herman; Halayko, Andrew J.
CS Department of Molecular Pharmacology, University of Groningen, Groningen, Neth.
SO Respiratory Research (2006), 7(1), No pp. given
CODEN: RREEBZ; ISSN: 1465-993X
URL: http://respiratory-research.com/content/pdf/1465-9921-7-73.pdf
PB BioMed Central Ltd.
DT Journal; **General Review**; (online computer file)
LA English
AB A review. **Anticholinergics** are widely used for the treatment of **COPD**, and to a lesser extent for asthma. Primarily used as bronchodilators, they reverse the action of vagally derived acetylcholine on airway smooth muscle contraction. Recent novel studies suggest that the effects of **anticholinergics** likely extend far beyond inducing bronchodilation, as the novel anticholinergic drug tiotropium bromide can effectively inhibit accelerated decline of lung function in **COPD** patients. Vagal tone is increased in airway inflammation associated with asthma and **COPD**; this results from exaggerated acetylcholine release and enhanced expression of downstream signaling components in airway smooth muscle. Vagally derived acetylcholine also regulates mucus production in the airways. A number of recent research papers also indicate that acetylcholine, acting through **muscarinic** receptors, may in part regulate pathol. changes associated with airway remodeling. **Muscarinic** receptor signalling regulates airway smooth muscle thickening and differentiation, both in vitro and in vivo. Furthermore, acetylcholine and its synthesizing enzyme, choline acetyl transferase (ChAT), are ubiquitously expressed throughout the airways. Most notably epithelial cells and inflammatory cells generate acetylcholine, and express functional **muscarinic** receptors. Interestingly, recent work indicates the expression and function of **muscarinic** receptors on neutrophils is increased in **COPD**. Considering the potential broad role for endogenous acetylcholine in airway biol., this review summarizes established and novel aspects of **muscarinic** receptor signaling in relation to the pathophysiol. and treatment of asthma and **COPD.**
RE.CNT 147 THERE ARE 147 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI **Muscarinic** receptor signaling in the pathophysiology of asthma and **COPD**
DT Journal; **General Review**; (online computer file)
AB A review. **Anticholinergics** are widely used for the treatment of **COPD**, and to a lesser extent for asthma. Primarily used as bronchodilators, they reverse the action of vagally derived acetylcholine on airway smooth muscle contraction. Recent novel studies suggest that the effects of **anticholinergics** likely extend far beyond inducing bronchodilation, as the novel anticholinergic drug tiotropium bromide can effectively inhibit accelerated decline of lung function in **COPD** patients. Vagal tone is increased in airway inflammation associated with asthma and **COPD**; this results from exaggerated acetylcholine release and enhanced expression of downstream signaling components in airway smooth muscle. Vagally derived acetylcholine also regulates mucus production in the airways. A number of recent research papers also indicate that acetylcholine, acting through **muscarinic** receptors, may in part regulate pathol. changes associated with airway remodeling. **Muscarinic** receptor signalling regulates airway smooth muscle thickening and differentiation, both in vitro and in vivo. Furthermore, acetylcholine and its synthesizing enzyme, choline acetyl transferase (ChAT), are ubiquitously expressed throughout the airways.

Print selected from 10565049_Specific.trn

Most notably epithelial cells and inflammatory cells generate acetylcholine, and express functional **muscarinic** receptors. Interestingly, recent work indicates the expression and function of **muscarinic** receptors on neutrophils is increased in **COPD**. Considering the potential broad role for endogenous acetylcholine in airway biol., this review summarizes established and novel aspects of **muscarinic** receptor signaling in relation to the pathophysiol. and treatment of asthma and **COPD.**

ST review **muscarinic** receptor acetylcholine tiotropium bromide asthma **COPD**

IT Asthma
Human
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT **Muscarinic** receptors
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT Lung, disease
(chronic obstructive pulmonary disease; acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT 51-84-3, Acetylcholine, biological studies
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT 136310-93-5, Tiotropium bromide
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

Print selected from 10565049_Specific.trn

L16 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:733889 CAPLUS <<LOGINID::20070221>>
DN 145:373580
TI **Muscarinic** receptor signaling in the pathophysiology of asthma and **COPD**
AU Gosens, Reinoud; Zaagsma, Johan; Meurs, Herman; Halayko, Andrew J.
CS Department of Molecular Pharmacology, University of Groningen, Groningen, Neth.
SO Respiratory Research (2006), 7(1), No pp. given
CODEN: RREEBZ; ISSN: 1465-993X
URL: http://respiratory-research.com/content/pdf/1465-9921-7-73.pdf
PB BioMed Central Ltd.
DT Journal; **General Review**; (online computer file)
LA English
AB A review. **Anticholinergics** are widely used for the treatment of **COPD**, and to a lesser extent for asthma. Primarily used as bronchodilators, they reverse the action of vagally derived acetylcholine on airway smooth muscle contraction. Recent novel studies suggest that the effects of **anticholinergics** likely extend far beyond inducing bronchodilation, as the novel anticholinergic drug tiotropium bromide can effectively inhibit accelerated decline of lung function in **COPD** patients. Vagal tone is increased in airway inflammation associated with asthma and **COPD**; this results from exaggerated acetylcholine release and enhanced expression of downstream signaling components in airway smooth muscle. Vagally derived acetylcholine also regulates mucus production in the airways. A number of recent research papers also indicate that acetylcholine, acting through **muscarinic** receptors, may in part regulate pathol. changes associated with airway remodeling. **Muscarinic** receptor signalling regulates airway smooth muscle thickening and differentiation, both in vitro and in vivo. Furthermore, acetylcholine and its synthesizing enzyme, choline acetyl transferase (ChAT), are ubiquitously expressed throughout the airways. Most notably epithelial cells and inflammatory cells generate acetylcholine, and express functional **muscarinic** receptors. Interestingly, recent work indicates the expression and function of **muscarinic** receptors on neutrophils is increased in **COPD**. Considering the potential broad role for endogenous acetylcholine in airway biol., this review summarizes established and novel aspects of **muscarinic** receptor signaling in relation to the pathophysiol. and treatment of asthma and **COPD**.
RE.CNT 147 THERE ARE 147 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI **Muscarinic** receptor signaling in the pathophysiology of asthma and **COPD**
DT Journal; **General Review**; (online computer file)
AB A review. **Anticholinergics** are widely used for the treatment of **COPD**, and to a lesser extent for asthma. Primarily used as bronchodilators, they reverse the action of vagally derived acetylcholine on airway smooth muscle contraction. Recent novel studies suggest that the effects of **anticholinergics** likely extend far beyond inducing bronchodilation, as the novel anticholinergic drug tiotropium bromide can effectively inhibit accelerated decline of lung function in **COPD** patients. Vagal tone is increased in airway inflammation associated with asthma and **COPD**; this results from exaggerated acetylcholine release and enhanced expression of downstream signaling components in airway smooth muscle. Vagally derived acetylcholine also regulates mucus production in the airways. A number of recent research papers also indicate that acetylcholine, acting through **muscarinic** receptors, may in part regulate pathol. changes associated with airway remodeling. **Muscarinic** receptor signalling regulates airway smooth muscle thickening and differentiation, both in vitro and in vivo.

Print selected from 10565049_Specific.trn

Furthermore, acetylcholine and its synthesizing enzyme, choline acetyl transferase (ChAT), are ubiquitously expressed throughout the airways. Most notably epithelial cells and inflammatory cells generate acetylcholine, and express functional **muscarinic** receptors. Interestingly, recent work indicates the expression and function of **muscarinic** receptors on neutrophils is increased in **COPD** . Considering the potential broad role for endogenous acetylcholine in airway biol., this review summarizes established and novel aspects of **muscarinic** receptor signaling in relation to the pathophysiol. and treatment of asthma and **COPD.**

ST review **muscarinic** receptor acetylcholine tiotropium bromide asthma **COPD**

IT Asthma
Human
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT **Muscarinic** receptors
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT Lung, disease
(chronic obstructive pulmonary disease; acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT 51-84-3, Acetylcholine, biological studies
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

IT 136310-93-5, Tiotropium bromide
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(acetylcholine and **muscarinic** receptor regulated airway smooth muscle contraction, airway inflammation suggesting that tiotropium bromide blocking it could reduce these effects in patient with asthma and chronic obstructive pulmonary disease)

L16 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1023053 CAPLUS <<LOGINID::20070221>>
DN 143:451982
TI The clinical use of **anticholinergics**
AU Celli, B. R.
CS Pulmonary and Critical Care Medicine, Caritas St Elizabeth's Medical Center, Tufts University, Boston, MA, USA
SO Therapeutic Strategies in COPD (2005), 93-105. Editor(s): Cazzola, Mario. Publisher: Clinical Publishing, Oxford, UK.
CODEN: 69HIO8; ISBN: 1-904392-42-3
DT Conference; **General Review**
LA English
AB A review. **Anticholinergics** are very useful bronchodilators in the management of chronic obstructive pulmonary disease (**COPD**) and work by blocking **muscarinic** receptors in airway smooth muscle. Currently available anticholinergic drugs include ipratropium

bromide, oxitropium bromide and more recently tiotropium bromide. As **muscarinic** receptor antagonists, they promote bronchodilation with the added advantage of having minimal side-effects when used in therapeutic doses. The evidence that inhaled **anticholinergics** constitute the cornerstone of pharmacol. therapy in **COPD** is reviewed.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI The clinical use of **anticholinergics**

DT Conference; **General Review**

AB A review. **Anticholinergics** are very useful bronchodilators in the management of chronic obstructive pulmonary disease (**COPD**) and work by blocking **muscarinic** receptors in airway smooth muscle. Currently available anticholinergic drugs include ipratropium bromide, oxitropium bromide and more recently tiotropium bromide. As **muscarinic** receptor antagonists, they promote bronchodilation with the added advantage of having minimal side-effects when used in therapeutic doses. The evidence that inhaled **anticholinergics** constitute the cornerstone of pharmacol. therapy in **COPD** is reviewed.

ST review anticholinergic **muscarinic** antagonist bronchodilator chronic obstructive pulmonary disease

IT Lung, disease
(chronic obstructive pulmonary disease; clin. use of **anticholinergics** for patients with chronic obstructive pulmonary disease)

IT Bronchodilators
Cholinergic antagonists
Dyspnea
Human
Muscarinic antagonists
Respiratory system
(clin. use of **anticholinergics** for patients with chronic obstructive pulmonary disease)

IT Drug delivery systems
(inhalants; clin. use of **anticholinergics** for patients with chronic obstructive pulmonary disease)

IT Muscle
(smooth; clin. use of **anticholinergics** for patients with chronic obstructive pulmonary disease)

IT 22254-24-6, Ipratropium bromide 30286-75-0, Oxitropium bromide 136310-93-5, Tiotropium bromide
RL: ADV (Adverse effect, including toxicity); DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(clin. use of **anticholinergics** for patients with chronic obstructive pulmonary disease)

L16 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:1023052 CAPLUS <<LOGINID::20070221>>

DN 144:80307

TI **Anticholinergics**: Basic pharmacology

AU Belvisi, M. G.; Patel, H. J.

CS Respiratory Pharmacology Group, Airway Disease Section, National Heart & Lung Institute, Imperial College School of Medicine, London, UK

SO Therapeutic Strategies in COPD (2005), 79-92. Editor(s): Cazzola, Mario. Publisher: Clinical Publishing, Oxford, UK.
CODEN: 69HIO8; ISBN: 1-904392-42-3

DT Conference; **General Review**

LA English

AB A review. **Muscarinic** receptor antagonists (**anticholinergics**) are used as bronchodilators and are central to

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the management of patients with chronic obstructive pulmonary disease (**COPD**). Currently, the anticholinergic medications used in the treatment of airway diseases are not selective for the M3 **muscarinic** receptor subtype. New compds. that display increased selectivity for this receptor subtype over the M2 receptor may have advantages over other non-selective compds. by blocking the contractile activity of acetylcholine (ACh) without increasing the neuronal release of ACh.

RE.CNT 111 THERE ARE 111 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI **Anticholinergics**: Basic pharmacology

DT Conference; **General Review**

AB A review. **Muscarinic** receptor antagonists (**anticholinergics**) are used as bronchodilators and are central to the management of patients with chronic obstructive pulmonary disease (**COPD**). Currently, the anticholinergic medications used in the treatment of airway diseases are not selective for the M3 **muscarinic** receptor subtype. New compds. that display increased selectivity for this receptor subtype over the M2 receptor may have advantages over other non-selective compds. by blocking the contractile activity of acetylcholine (ACh) without increasing the neuronal release of ACh.

IT **Muscarinic** receptors
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(M3, antagonist; **anticholinergics** for treatment of airway disease were not selective for M3 **muscarinic** receptors but new compds. showing high selectivity for M3 subtype over M2 receptor may block contractile activity of ACh in **COPD** patient)

IT Lung, disease
(chronic obstructive pulmonary disease; current **anticholinergics** for treatment of airway disease were not selective for M3 **muscarinic** receptors but new compds. showing high selectivity for M3 subtype over M2 receptor may block contractile activity of ACh in **COPD** patient)

IT Cholinergic antagonists
Lung
Respiratory system, disease
(current **anticholinergics** for treatment of airway disease were not selective for M3 **muscarinic** receptors but new compds. showing high selectivity for M3 subtype over M2 receptor may block contractile activity of ACh in **COPD** patient)

IT 51-84-3, Acetylcholine, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(current **anticholinergics** for treatment of airway disease were not selective for M3 **muscarinic** receptors but new compds. showing high selectivity for M3 subtype over M2 receptor may block contractile activity of ACh in **COPD** patient)

L16 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:95138 CAPLUS <<LOGINID::20070221>>

DN 142:328698

TI The role of **anticholinergics** in chronic obstructive pulmonary disease

AU Barnes, Peter J.

CS Department of Thoracic Medicine, Imperial College, National Heart and Lung Institute, London, UK

SO American Journal of Medicine (2004), 117(Suppl. 12A), 24S-32S
CODEN: AJMEAZ; ISSN: 0002-9343

PB Elsevier

DT Journal; **General Review**

Print selected from 10565049_Specific.trn

LA English
AB A review. **Anticholinergics** are the bronchodilators of choice in the management of chronic obstructive pulmonary disease (**COPD**). They work by blocking **muscarinic** receptors in airway smooth muscle. Cholinergic tone appears to be the only reversible component of **COPD.** With the discovery of different **muscarinic** receptor subtypes, the development of more selective **anticholinergics** is possible. A major advance in this therapeutic area has been the discovery of tiotropium bromide, which has kinetic selectivity for M3 receptors as well as a duration of action of >24 h. Once-daily administration of tiotropium is well tolerated and has shown significant advantages over ipratropium bromide, given 4 times daily, in the control of **COPD.**
RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI The role of **anticholinergics** in chronic obstructive pulmonary disease
DT Journal; **General Review**
AB A review. **Anticholinergics** are the bronchodilators of choice in the management of chronic obstructive pulmonary disease (**COPD**). They work by blocking **muscarinic** receptors in airway smooth muscle. Cholinergic tone appears to be the only reversible component of **COPD.** With the discovery of different **muscarinic** receptor subtypes, the development of more selective **anticholinergics** is possible. A major advance in this therapeutic area has been the discovery of tiotropium bromide, which has kinetic selectivity for M3 receptors as well as a duration of action of >24 h. Once-daily administration of tiotropium is well tolerated and has shown significant advantages over ipratropium bromide, given 4 times daily, in the control of **COPD.**
ST review tiotropium chronic obstructive pulmonary disease bronchodilator **anticholinergics**
IT Bronchodilators
Human
(**anticholinergics** are most effective bronchodilator class and long-acting drug tiotropium bromide due to kinetic selectivity for M3 receptor preferred to short-acting drug ipratropium and oxitropium for treatment of **COPD** in human)
IT **Muscarinic** receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**anticholinergics** most effective bronchodilator caused blocking of **muscarinic** receptor for neurotransmitter acetylcholine released in airway smooth muscle thus can be used in long-term management of patient with **COPD**)
IT Cholinergic antagonists
Lung
(**anticholinergics** tiotropium bromide showed kinetic selectivity for M3 receptor thus its once-daily administration offered significant advantage over ipratropium bromide and oxitropium bromide in long-term management of patient with **COPD**)
IT Lung, disease
(chronic obstructive pulmonary disease; **anticholinergics** tiotropium bromide showed kinetic selectivity for M3 receptor thus its once-daily administration offered significant advantage over ipratropium bromide and oxitropium bromide in long-term management of patient with **COPD**)
IT 51-84-3, Acetylcholine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**anticholinergics** most effective bronchodilator caused blocking of **muscarinic** receptor for neurotransmitter acetylcholine released in airway smooth muscle thus can be used in long-term management of patient with **COPD**)

Print selected from 10565049_Specific.trn

IT 22254-24-6, Ipratropium bromide 30286-75-0, Oxitropium bromide
136310-93-5, Tiotropium bromide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**anticholinergics** tiotropium bromide showed kinetic selectivity for M3 receptor thus its once-daily administration offered significant advantage over ipratropium bromide and oxitropium bromide in long-term management of patient with **COPD**)

L16 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:427892 CAPLUS <<LOGINID::20070221>>
DN 135:266478
TI The role of **anticholinergics** in asthma and **COPD**
AU Chapman, Kenneth R.
CS University of Toronto and Asthma Centre, University of Health Network, Toronto, ON, M5T 258, Can.
SO Muscarinic Receptors in Airways Diseases (2001), 203-219. Editor(s): Zaagsma, Johan; Meurs, Herman; Roffel, Ad F. Publisher: Birkhaeuser Verlag, Basel, Switz.
CODEN: 69BJUL
DT Conference; **General Review**
LA English
AB A review, with 63 refs. Many of the early observations of the clin. value of antimuscarinic bronchodilators have been validated in the modern era by pharmacol., physiol., clin. and biol. studies. The pharmaceutical progeny of antimuscarinic botanicals are now the cornerstone of bronchodilator therapy in patients with chronic obstructive pulmonary disease and a useful supplemental bronchodilator for patients with asthma. The author briefly reviews the rich medical history and explores the clin. role of modern pharmaceutical antimuscarinic bronchodilators.
RE.CNT 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI The role of **anticholinergics** in asthma and **COPD**
DT Conference; **General Review**
IT Lung, disease
(chronic obstructive; role of **anticholinergics** in treatment of asthma and chronic obstructive pulmonary disease in humans)
IT Antiasthmatics
Bronchodilators
Muscarinic antagonists
(role of **anticholinergics** in treatment of asthma and chronic obstructive pulmonary disease in humans)

L16 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:360977 CAPLUS <<LOGINID::20070221>>
DN 135:235691
TI **Anticholinergics**: Tiotropium
AU Disse, Bernd; Witek, Theodore J., Jr.
CS Clinical Research Institute, Boehringer Ingelheim, Ingelheim/Rhein, Germany
SO Progress in Respiratory Research (2001), 31(New Drugs for Asthma, Allergy and COPD), 72-76
CODEN: PRRRAE; ISSN: 1422-2140
PB S. Karger AG
DT Journal; **General Review**
LA English
AB A review with 24 refs. Anticholinergic bronchodilators have transformed from a fascinating ancient history of inhaling smoke from medicinal plants to the present day formulations of N-quaternary compds. such as ipratropium bromide. Ipratropium has emerged as important maintenance therapy, particularly in **COPD**. Recently, the new generation compound tiotropium (Spiriva) has been shown to have unique pharmacol.

properties, among the most important being its prolonged binding to **muscarinic** receptors. In clin. trials, this property has translated into effective once-daily bronchodilation in patients with **COPD** with persistent improvement before the next administration at trough (at end of dosing interval, 24 h after administration). Preliminary evaluations of health outcomes have been encouraging, including the effect of tiotropium on dyspnea and quality of life.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI **Anticholinergics**: Tiotropium

DT Journal; **General Review**

AB A review with 24 refs. Anticholinergic bronchodilators have transformed from a fascinating ancient history of inhaling smoke from medicinal plants to the present day formulations of N-quaternary compds. such as ipratropium bromide. Ipratropium has emerged as important maintenance therapy, particularly in **COPD.** Recently, the new generation compound tiotropium (Spiriva) has been shown to have unique pharmacol. properties, among the most important being its prolonged binding to **muscarinic** receptors. In clin. trials, this property has translated into effective once-daily bronchodilation in patients with **COPD** with persistent improvement before the next administration at trough (at end of dosing interval, 24 h after administration). Preliminary evaluations of health outcomes have been encouraging, including the effect of tiotropium on dyspnea and quality of life.

ST review tiotropium Spiriva anticholinergic bronchodilator **COPD**

IT Bronchodilators
Cholinergic antagonists
(anticholinergic bronchodilating effect of tiotropium in humans with chronic obstructive pulmonary disease (**COPD**))

IT Lung, disease
(chronic obstructive; anticholinergic bronchodilating effect of tiotropium in humans with chronic obstructive pulmonary disease (**COPD**))

IT 60205-81-4, Ipratropium 136310-93-5, Spiriva
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(anticholinergic bronchodilating effect of tiotropium in humans with chronic obstructive pulmonary disease (**COPD**))

L16 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:266014 CAPLUS <<LOGINID::20070221>>

DN 135:40286

TI Tiotropium bromide

AU Barnes, Peter J.

CS Department of Thoracic Medicine, National Heart and Lung Institute, Imperial College, London, UK

SO Expert Opinion on Investigational Drugs (2001), 10(4), 733-740
CODEN: EOIDER; ISSN: 1354-3784

PB Ashley Publications Ltd.

DT Journal; **General Review**

LA English

AB A review with 38 refs. Tiotropium bromide is a new long-lasting anticholinergic drug which, like ipratropium bromide, is a quaternary ammonium derivative It binds with high affinity to **muscarinic** receptors but dissocs. very slowly from M1- and M3-**muscarinic** receptors. Pharmacol. studies have demonstrated a prolonged protective effect against cholinergic agonists and cholinergic nerve stimulation in animal and human airways. In Phase II studies single inhaled doses of tiotropium bromide have a bronchodilator and bronchoprotective effect in asthmatic and chronic obstructive pulmonary disease (**COPD**)

patients of over 24 h. In Phase III studies, once daily inhaled tiotropium is an effective bronchodilator in **COPD** patients, giving great improvement in lung function and reduction in symptoms than ipratropium bromide given four times daily. The drug is well-tolerated and the only side effect of note is dryness of the mouth which occurs in approx. 10% of patients. Since, **anticholinergics** are the bronchodilators of choice in **COPD** it is likely that tiotropium bromide will become the most widely used bronchodilator for **COPD** patients in the future.

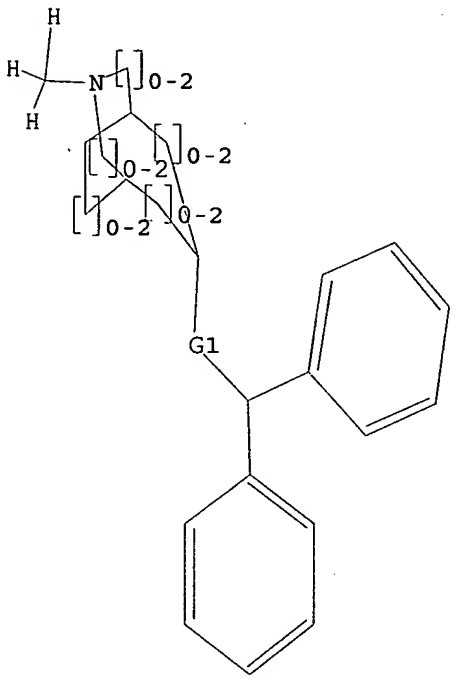
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

DT Journal; **General Review**

AB A review with 38 refs. Tiotropium bromide is a new long-lasting anticholinergic drug which, like ipratropium bromide, is a quaternary ammonium derivative It binds with high affinity to **muscarinic** receptors but dissocs. very slowly from M1- and M3-**muscarinic** receptors. Pharmacol. studies have demonstrated a prolonged protective effect against cholinergic agonists and cholinergic nerve stimulation in animal and human airways. In Phase II studies single inhaled doses of tiotropium bromide have a bronchodilator and bronchoprotective effect in asthmatic and chronic obstructive pulmonary disease (**COPD**) patients of over 24 h. In Phase III studies, once daily inhaled tiotropium is an effective bronchodilator in **COPD** patients, giving great improvement in lung function and reduction in symptoms than ipratropium bromide given four times daily. The drug is well-tolerated and the only side effect of note is dryness of the mouth which occurs in approx. 10% of patients. Since, **anticholinergics** are the bronchodilators of choice in **COPD** it is likely that tiotropium bromide will become the most widely used bronchodilator for **COPD** patients in the future.

Print selected from 10565049_Specific.trn

> d l4
L4 HAS NO ANSWERS
L4 STR



G1 C,O

Structure attributes must be viewed using STN Express query preparation.

=> s l4
STRUCTURE TOO LARGE - SEARCH ENDED
A structure in your query is too large. You may delete
attributes or atoms to reduce the size of the structure
and try again.

=> s 14
STRUCTURE TOO LARGE - SEARCH ENDED
A structure in your query is too large. You may delete
attributes or atoms to reduce the size of the structure
and try again.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.45	17.70

FILE 'STNGUIDE' ENTERED AT 10:12:56 ON 21 FEB 2007

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Feb 16, 2007 (20070216/UP).

```
Print selected from 10565049_Specific.trn

=>
Uploading
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Do you want to switch to the Registry File?
Choice (Y/n):
Switching to the Registry File...
Some commands only work in certain files.  For example, the EXPAND
command can only be used to look at the index in a file which has an
index.  Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of
commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.06      17.76

FILE 'REGISTRY' ENTERED AT 10:13:46 ON 21 FEB 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   19 FEB 2007  HIGHEST RN 921921-74-6
DICTIONARY FILE UPDATES:  19 FEB 2007  HIGHEST RN 921921-74-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10565049_broad2.str
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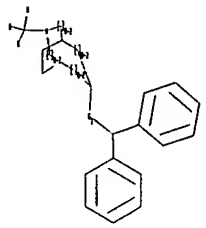
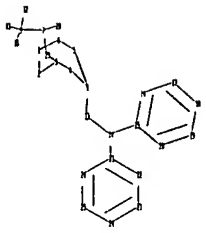
Print selected from 10565049_Specific.trn





chain nodes :
9 10 11 12 13 14
ring nodes :
1 2 3 4 5 6 7 8 15 16 17 18 19 20 21 22 23 24 25 26 28 29
chain bonds :
7-9 8-13 9-10 9-11 9-12 13-14 14-15 14-21
ring bonds :
1-2 1-6 2-3 3-4 3-29 4-8 5-6 5-8 6-28 7-28 7-29 15-16 15-20 16-17
17-18
18-19 19-20 21-22 21-26 22-23 23-24 24-25 25-26
exact/norm bonds :
1-2 1-6 2-3 3-4 3-29 4-8 5-6 5-8 6-28 7-9 7-28 7-29 8-13 13-14
exact bonds :
9-10 9-11 9-12 14-15 14-21
normalized bonds :
15-16 15-20 16-17 17-18 18-19 19-20 21-22 21-26 22-23 23-24 24-25 25-26

G1:C,O

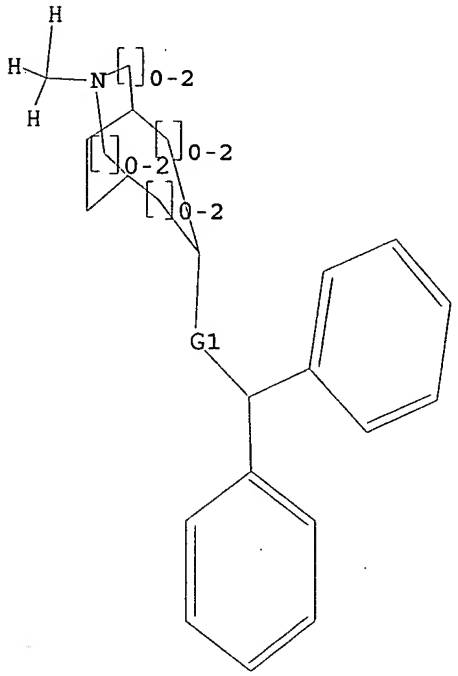
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom

Print selected from 10565049_Specific.trn

22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 28:Atom 29:Atom

L5 STRUCTURE UPLOADED

=> d l5
L5 HAS NO ANSWERS
L5 STR



G1 C,O

Structure attributes must be viewed using STN Express query preparation.

=> s l5
STRUCTURE TOO LARGE - SEARCH ENDED
A structure in your query is too large. You may delete
attributes or atoms to reduce the size of the structure
and try again.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.45	18.21

FILE 'STNGUIDE' ENTERED AT 10:14:14 ON 21 FEB 2007

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Feb 16, 2007 (20070216/UP).

Print selected from 10565049_Specific.trn

=>
Uploading
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Do you want to switch to the Registry File?
Choice (Y/n):
Switching to the Registry File...
Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.06	18.27

FILE 'REGISTRY' ENTERED AT 10:15:07 ON 21 FEB 2007

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 19 FEB 2007 HIGHEST RN 921921-74-6
DICTIONARY FILE UPDATES: 19 FEB 2007 HIGHEST RN 921921-74-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

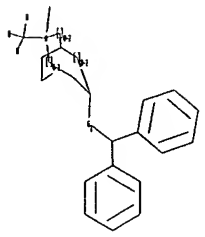
Please note that search-term pricing does apply when conducting SmartSELECT searches.

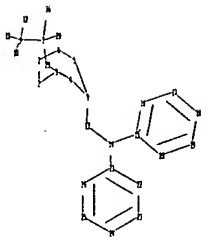
REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10565049_broad3.str

Print selected from 10565049_Specific.trn





chain nodes :
9 10 11 12 13 14 36
ring nodes :
1 2 3 4 5 6 7 8 15 16 17 18 19 20 21 22 23 24 25 26 28 29
chain bonds :
7-9 7-36 8-13 9-10 9-11 9-12 13-14 14-15 14-21
ring bonds :
1-2 1-6 2-3 3-4 3-29 4-8 5-6 5-8 6-28 7-28 7-29 15-16 15-20 16-17
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exact/norm bonds :
1-2 1-6 2-3 3-4 3-29 4-8 5-6 5-8 6-28 7-9 7-28 7-29 7-36 8-13 13-14

exact bonds :
9-10 9-11 9-12 14-15 14-21
normalized bonds :
15-16 15-20 16-17 17-18 18-19 19-20 21-22 21-26 22-23 23-24 24-25 25-26

G1:C,O

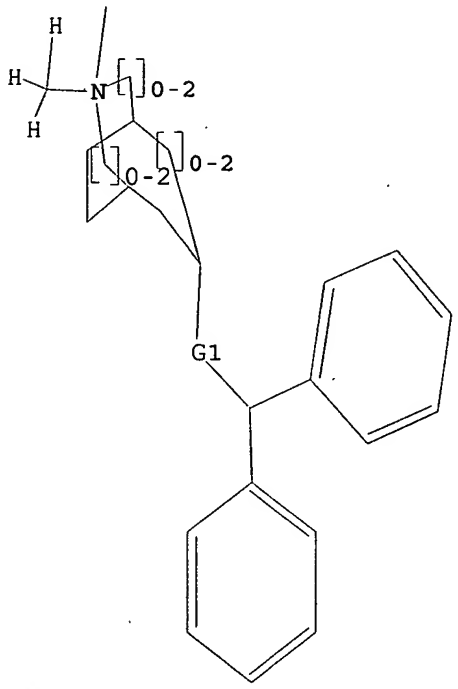
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom

Print selected from 10565049_Specific.trn

22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 28:Atom 29:Atom 36:CLASS

L6 STRUCTURE UPLOADED

=> d l6
L6 HAS NO ANSWERS
L6 STR



G1 C,O

Structure attributes must be viewed using STN Express query preparation.

=> s l6
SAMPLE SEARCH INITIATED 10:15:34 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 101 TO ITERATE

100.0% PROCESSED 101 ITERATIONS 3 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1418 TO 2622
PROJECTED ANSWERS: 3 TO 163

L7 3 SEA SSS SAM L6

=> s l6 full
FULL SEARCH INITIATED 10:15:44 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2046 TO ITERATE

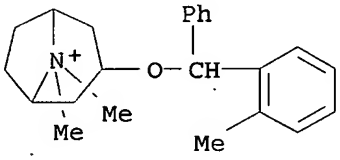
Print selected from 10565049_Specific.trn

100.0% PROCESSED 2046 ITERATIONS 88 ANSWERS
SEARCH TIME: 00.00.01

L8 88 SEA SSS FUL L6

=> d scan

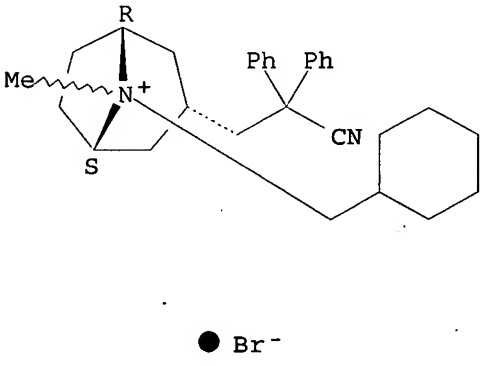
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[(2-methylphenyl)phenylmethoxy]- (9CI)
MF C23 H30 N O
CI COM



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):99

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclohexylmethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C30 H39 N2 . Br

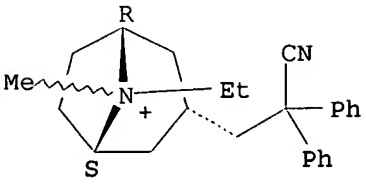
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-ethyl-8-methyl-, (3-endo)- (9CI)
MF C25 H31 N2
CI COM

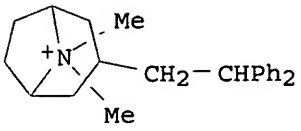
Relative stereochemistry.

Print selected from 10565049_Specific.trn

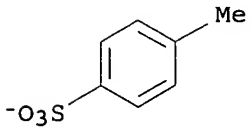


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2,2-Diphenylethyl)-8-methyltropanium p-toluenesulfonate (6CI)
MF C23 H30 N . C7 H7 O3 S

CM 1

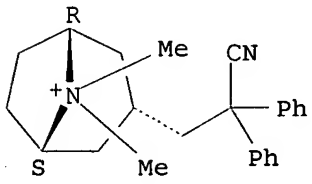


CM 2



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C24 H29 N2
CI COM

Relative stereochemistry.

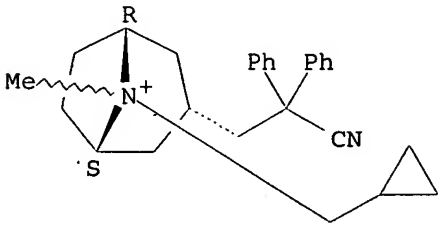


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclopropylmethyl)-8-methyl-, (3-endo)- (9CI)
MF C27 H33 N2

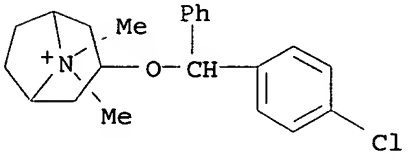
Print selected from 10565049_Specific.trn

CI COM

Relative stereochemistry.

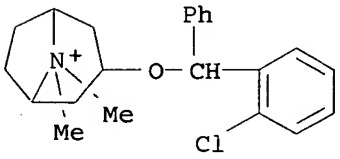


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(p-Chloro-α-phenylbenzyloxy)-8-methyltropanium chloride (6CI)
MF C22 H27 Cl N O . Cl



● Cl⁻

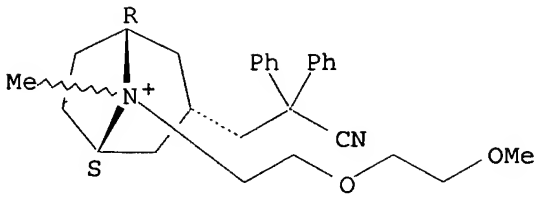
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[(2-chlorophenyl)phenylmethoxy]-8,8-dimethyl- (9CI)
MF C22 H27 Cl N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-[2-(2-methoxyethoxy)ethyl]-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C28 H37 N2 O2 . Br

Relative stereochemistry.

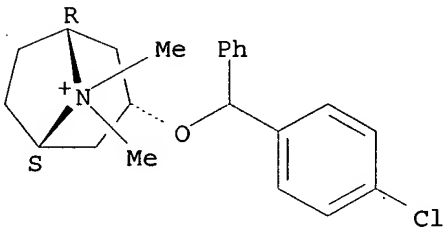
Print selected from 10565049_Specific.trn



● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-O-(p-Chloro-α-phenylbenzyl)-8-methyltropinium bromide (7CI)
MF C22 H27 Cl N O . Br

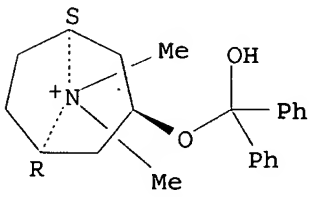
Relative stereochemistry.



● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(hydroxydiphenylmethoxy)-8,8-dimethyl-, endo- (9CI)
MF C22 H28 N O2
CI COM

Relative stereochemistry.

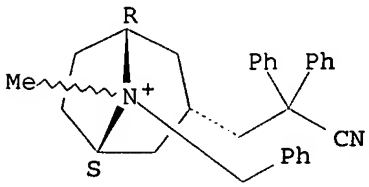


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(phenylmethyl)-, bromide, (3-endo,8-syn)- (9CI)

Print selected from 10565049_Specific.trn

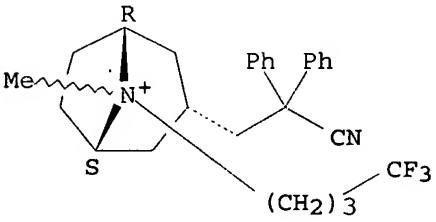
MF C30 H33 N2 . Br

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(4,4,4-trifluorobutyl)-, (3-endo)- (9CI)
MF C27 H32 F3 N2
CI COM

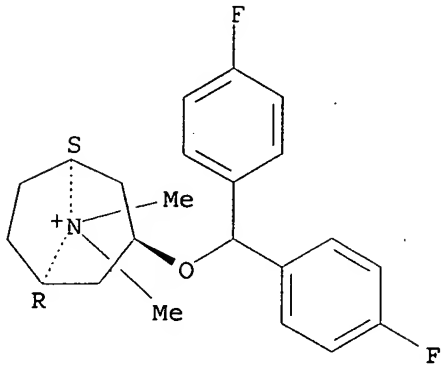
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[bis(4-fluorophenyl)methoxy]-8,8-dimethyl-, iodide, (3-endo)- (9CI)
MF C22 H26 F2 N O . I

Relative stereochemistry.

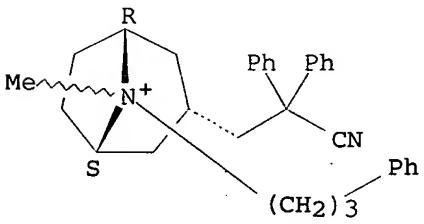
Print selected from 10565049_Specific.trn



● I^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenylpropyl)-, bromide, (3-endo,8-syn)- (9CI)
MF C32 H37 N2 . Br

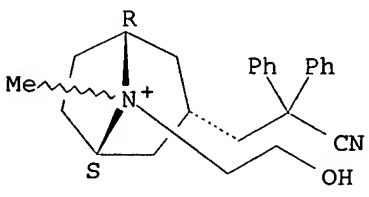
Relative stereochemistry.



● Br^-

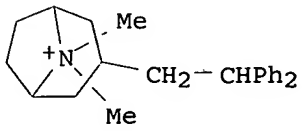
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-hydroxyethyl)-8-methyl-, (3-endo)- (9CI)
MF C25 H31 N2 O
CI COM

Relative stereochemistry.



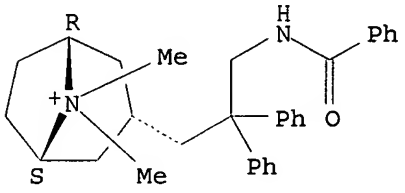
Print selected from 10565049_Specific.trn

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl- (9CI)
MF C23 H30 N
CI COM



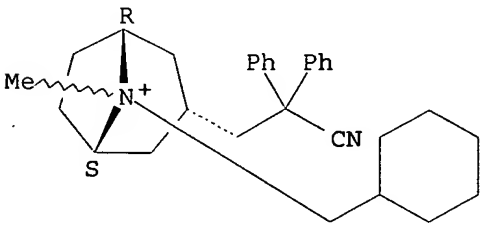
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C31 H37 N2 O . Br

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclohexylmethyl)-8-methyl-, (3-endo)- (9CI)
MF C30 H39 N2
CI COM

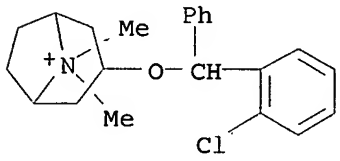
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN

Print selected from 10565049_Specific.trn

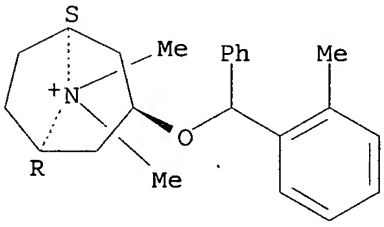
IN 3-(o-Chloro-α-phenylbenzyloxy)-8-methyltropanium bromide (6CI)
MF C22 H27 Cl N O . Br



● Br^-

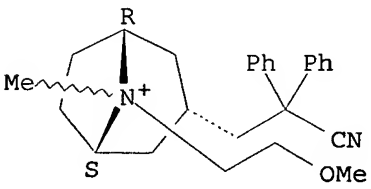
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[(2-methylphenyl)phenylmethoxy]-, (3-endo)- (9CI)
MF C23 H30 N O
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-methoxyethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C26 H33 N2 O . Br

Relative stereochemistry.

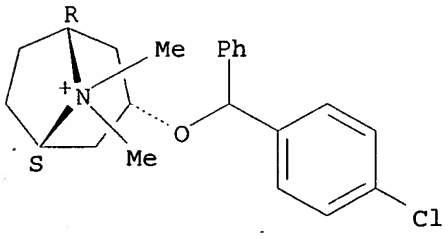


● Br^-

Print selected from 10565049_Specific.trn

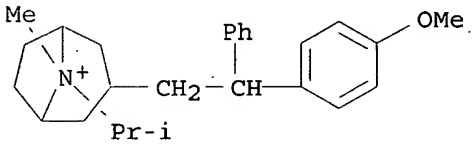
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-O-(p-Chloro-α-phenylbenzyl)-8-methyltropinium chloride (7CI)
MF C22 H27 Cl N O . Cl

Relative stereochemistry.



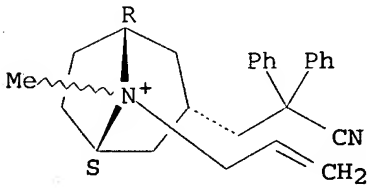
● Cl⁻

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[2-(4-methoxyphenyl)-2-phenylethyl]-8-methyl-8-(1-methylethyl)- (9CI)
MF C26 H36 N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(2-propenyl)-, iodide, (3-endo,8-syn)- (9CI)
MF C26 H31 N2 . I

Relative stereochemistry.

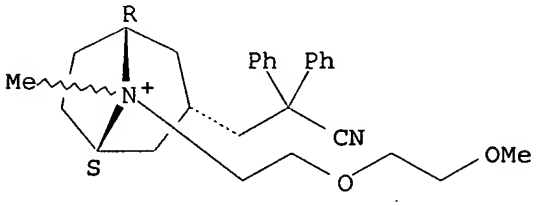


● I⁻

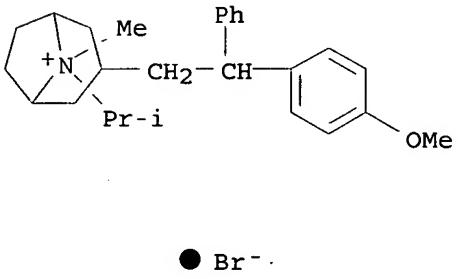
Print selected from 10565049_Specific.trn

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-[2-(2-methoxyethoxy)ethyl]-8-methyl-, (3-endo)- (9CI)
MF C28 H37 N2 O2
CI COM

Relative stereochemistry.



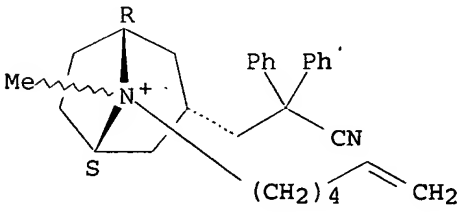
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Isopropyl-3-(p-methoxy-β-phenylphenethyl)tropanium bromide (6CI)
MF C26 H36 N O . Br



● Br⁻

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(5-hexenyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C29 H37 N2 . Br

Relative stereochemistry.

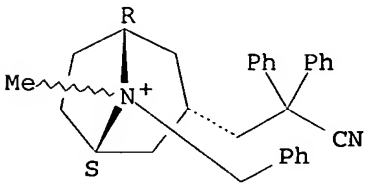


● Br⁻

Print selected from 10565049_Specific.trn

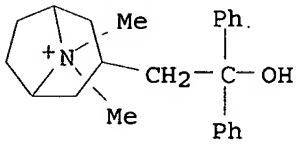
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(phenylmethyl)-, (3-endo)- (9CI)
MF C30 H33 N2
CI COM

Relative stereochemistry.

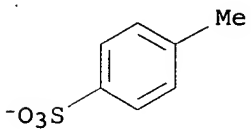


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2-Hydroxy-2,2-diphenylethyl)-8-methyltropanium p-toluenesulfonate (6CI)
MF C23 H30 N O . C7 H7 O3 S

CM 1



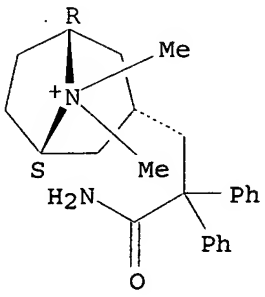
CM 2



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI)
MF C24 H31 N2 O . I

Relative stereochemistry.

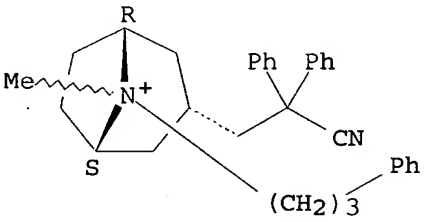
Print selected from 10565049_Specific.trn



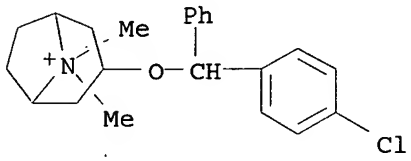
● I^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenylpropyl)-, (3-endo)- (9CI)
MF C32 H37 N2
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(p-Chloro-α-phenylbenzyloxy)-8-methyltropanium bromide (6CI)
MF C22 H27 Cl N O . Br



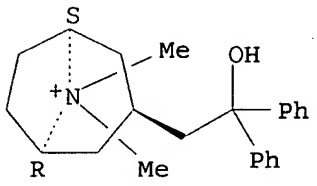
● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-

Print selected from 10565049_Specific.trn

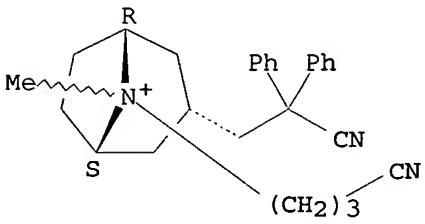
, (3-endo)- (9CI)
MF C23 H30 N O
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(3-cyanopropyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C27 H32 N3 . Br

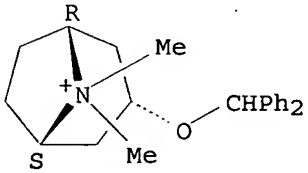
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(diphenylmethoxy)-8,8-dimethyl-, endo-, methanesulfonate (9CI)
MF C22 H28 N O . C H3 O3 S

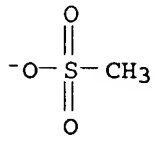
CM 1

Relative stereochemistry.

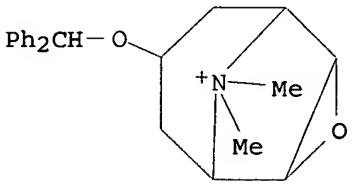


CM 2

Print selected from 10565049_Specific.trn

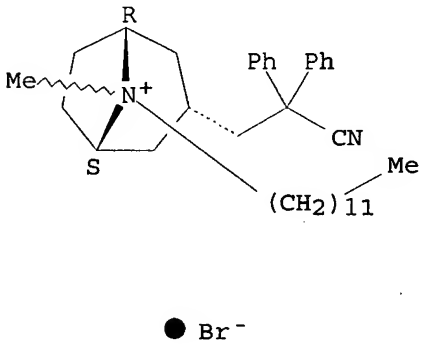


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-Oxa-9-azoniatricyclo[3.3.1.02,4]nonane, 7-(diphenylmethoxy)-9,9-dimethyl-, (1α,2β,4β,5α,7β)- (9CI)
MF C22 H26 N O2
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-dodecyl-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C35 H51 N2 . Br

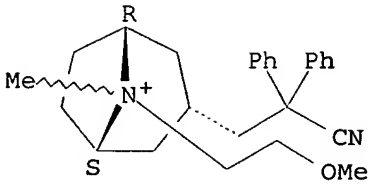
Relative stereochemistry.



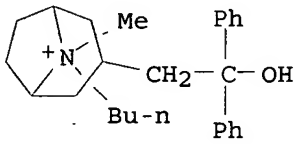
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-methoxyethyl)-8-methyl-, (3-endo)- (9CI)
MF C26 H33 N2 O
CI COM

Relative stereochemistry.

Print selected from 10565049_Specific.trn



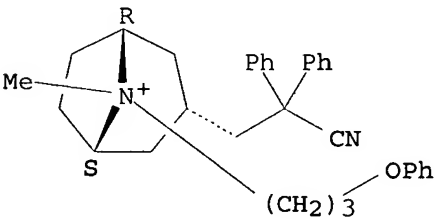
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Butyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium bromide (6CI)
MF C26 H36 N O . Br



● Br⁻

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenoxypropyl)-, bromide, (3-endo,8-syn)- (9CI)
MF C32 H37 N2 O . Br

Relative stereochemistry.

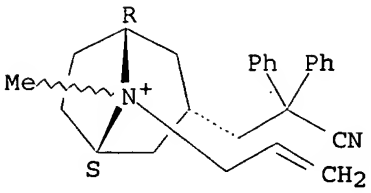


● Br⁻

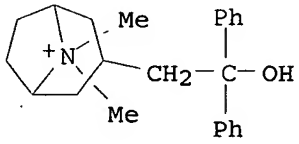
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(2-propenyl)-, (3-endo)- (9CI)
MF C26 H31 N2
CI COM

Relative stereochemistry.

Print selected from 10565049_Specific.trn

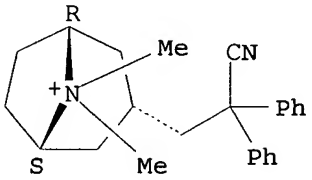


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl- (9CI)
MF C23 H30 N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C24 H29 N2 . Br

Relative stereochemistry.

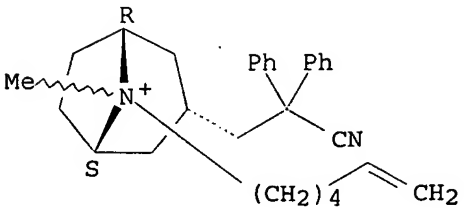


● Br^-

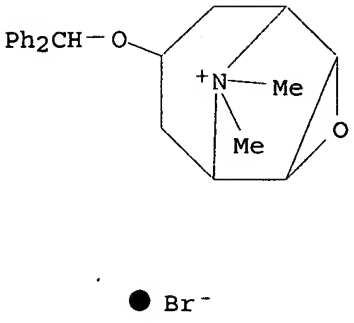
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(5-hexenyl)-8-methyl-, (3-endo)- (9CI)
MF C29 H37 N2
CI COM

Relative stereochemistry.

Print selected from 10565049_Specific.trn



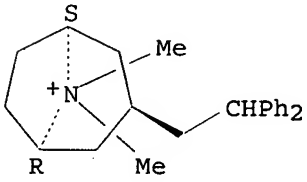
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN O-Diphenylmethyl-N-methylscopinium bromide (6CI)
MF C22 H26 N O2 . Br



● Br⁻

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C23 H30 N
CI COM

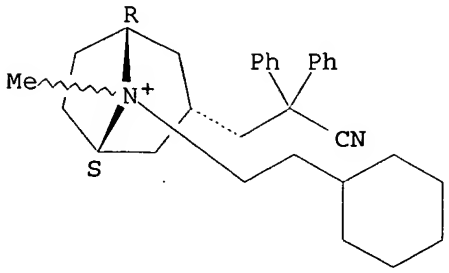
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-cyclohexylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C31 H41 N2 . Br

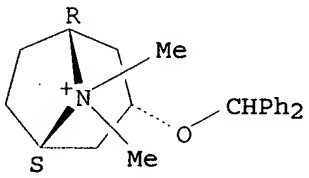
Relative stereochemistry.

Print selected from 10565049_Specific.trn



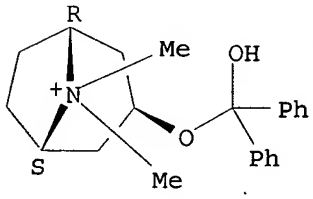
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(diphenylmethoxy)-8,8-dimethyl-, endo- (9CI)
MF C22 H28 N O
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(hydroxydiphenylmethoxy)-8,8-dimethyl-, exo- (9CI)
MF C22 H28 N O2
CI COM

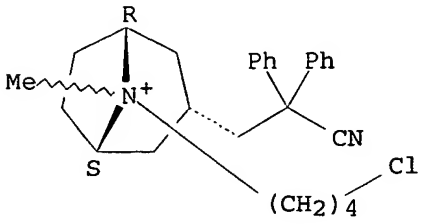
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8-(4-chlorobutyl)-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C27 H34 Cl N2 . Br

Print selected from 10565049_Specific.trn

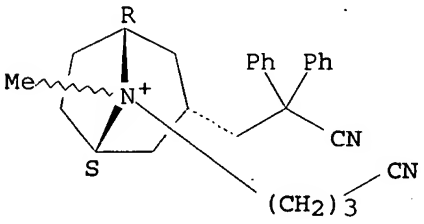
Relative stereochemistry.



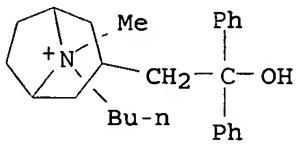
● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(3-cyanopropyl)-8-methyl-, (3-endo)- (9CI)
MF C27 H32 N3
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Butyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium iodide (6CI)
MF C26 H36 N O . I



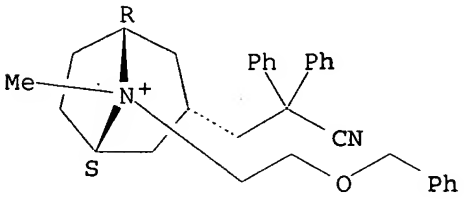
● I^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-[2-

Print selected from 10565049_Specific.trn

(phenylmethoxy)ethyl]-, bromide, (3-endo,8-syn)- (9CI)
MF C32 H37 N2 O . Br

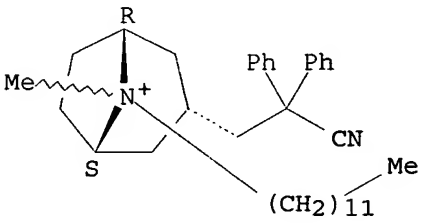
Relative stereochemistry.



● Br^-

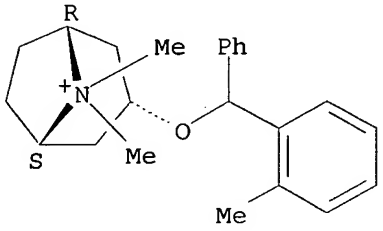
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-dodecyl-8-methyl-, (3-endo)- (9CI)
MF C35 H51 N2
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Methyl-3α-(α-o-tolylbenzyloxy)tropanium iodide (6CI)
MF C23 H30 N O . I

Relative stereochemistry.

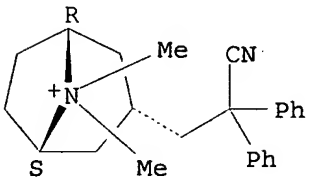


● I^-

Print selected from 10565049_Specific.trn

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI)
MF C24 H29 N2 . I

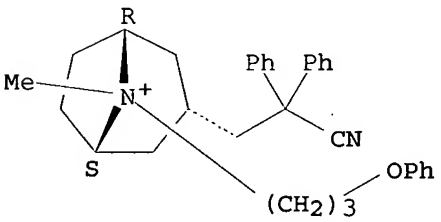
Relative stereochemistry.



● I^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenoxypropyl)-, (3-endo,8-syn)- (9CI)
MF C32 H37 N2 O
CI COM

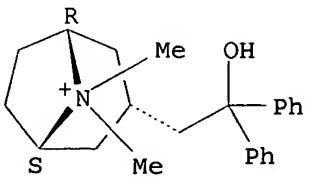
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C23 H30 N O . Br

Relative stereochemistry.

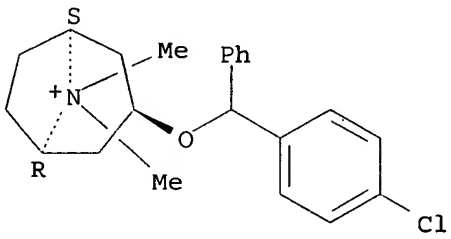
Print selected from 10565049_Specific.trn



● Br^-

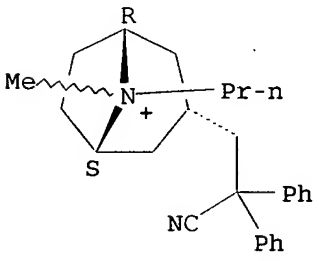
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[(4-chlorophenyl)phenylmethoxy]-8,8-dimethyl-, (3-endo)- (9CI)
MF C22 H27 Cl N O
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-propyl-, bromide, (3-endo,8-syn)- (9CI)
MF C26 H33 N2 . Br

Relative stereochemistry.

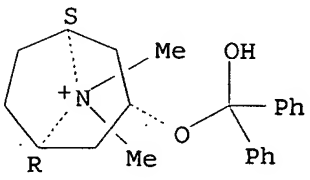


● Br^-

Print selected from 10565049_Specific.trn

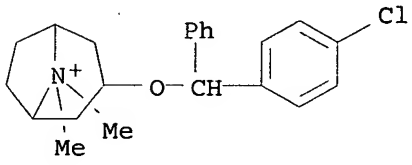
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(hydroxydiphenylmethoxy)-8,8-dimethyl-, iodide, exo- (9CI)
MF C22 H28 N O2 . I

Relative stereochemistry.



● I^-

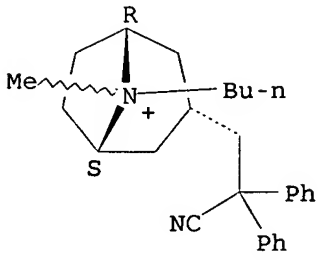
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[(4-chlorophenyl)phenylmethoxy]-8,8-dimethyl- (9CI)
MF C22 H27 Cl N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8-butyl-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C27 H35 N2 . Br

Relative stereochemistry.

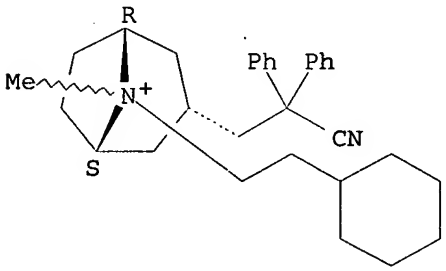
Print selected from 10565049_Specific.trn



● Br^-

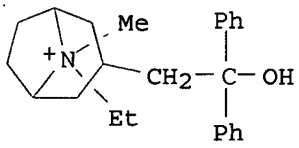
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-cyclohexylethyl)-8-methyl-, (3-endo)- (9CI)
MF C31 H41 N2
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Ethyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium ethyl sulfate (6CI)
MF C24 H32 N O . C2 H5 O4 S

CM 1



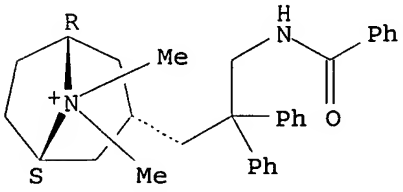
CM 2

$Et-O-SO_3^-$

Print selected from 10565049_Specific.trn

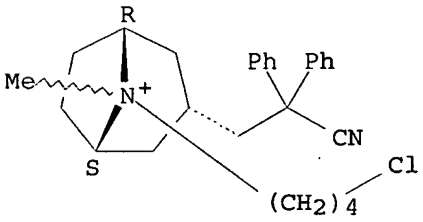
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, (3-endo)- (9CI)
MF C31 H37 N2 O
CI COM

Relative stereochemistry.

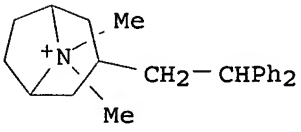


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8-(4-chlorobutyl)-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, (3-endo)- (9CI)
MF C27 H34 Cl N2
CI COM

Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2,2-Diphenylethyl)-8-methyltropanium bromide (6CI)
MF C23 H30 N . Br



● Br⁻

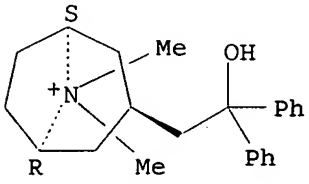
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI)

Print selected from 10565049_Specific.trn

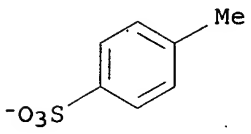
MF C23 H30 N O . C7 H7 O3 S

CM 1

Relative stereochemistry.

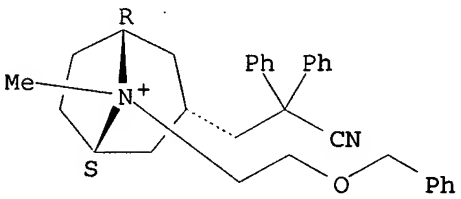


CM 2



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-[2-(phenylmethoxy)ethyl]-, (3-endo,8-syn)- (9CI)
MF C32 H37 N2 O
CI COM

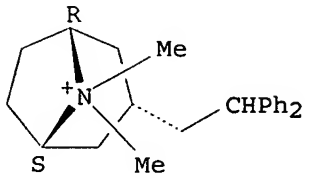
Relative stereochemistry.



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI)
MF C23 H30 N . Br

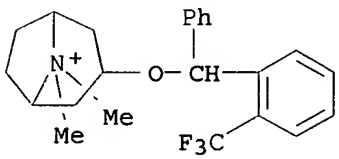
Relative stereochemistry.

Print selected from 10565049_Specific.trn



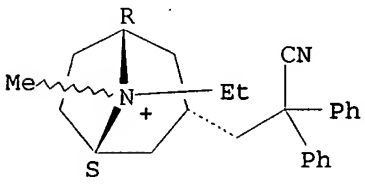
● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN Tropanium, 8-methyl-3-[[α-phenyl-o-(trifluoromethyl)benzyl]oxy]-(8CI)
MF C23 H27 F3 N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-ethyl-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C25 H31 N2 . Br

Relative stereochemistry.

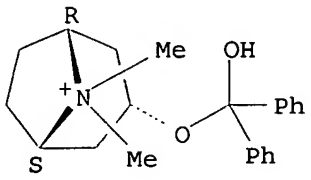


● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(hydroxydiphenylmethoxy)-8,8-dimethyl-, iodide, endo- (9CI)
MF C22 H28 N O2 . I

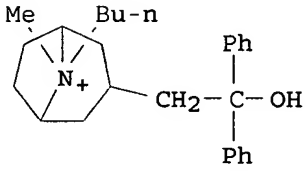
Relative stereochemistry.

Print selected from 10565049_Specific.trn



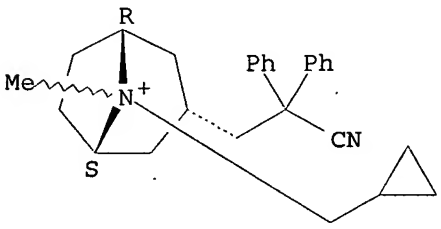
● I^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8-butyl-3-(2-hydroxy-2,2-diphenylethyl)-8-methyl- (9CI)
MF C26 H36 N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclopropylmethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C27 H33 N2 . Br

Relative stereochemistry.



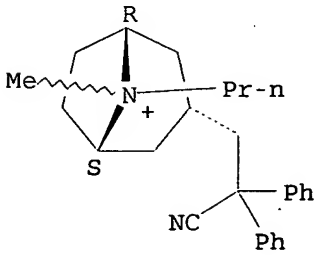
● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-propyl-, (3-endo)- (9CI)

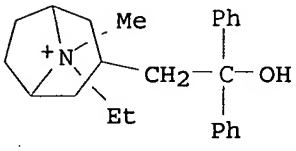
Print selected from 10565049_Specific.trn

MF C26 H33 N2
CI COM

Relative stereochemistry.

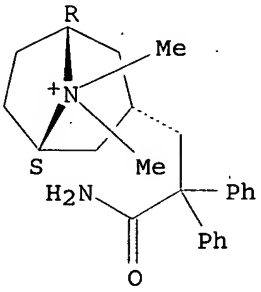


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8-ethyl-3-(2-hydroxy-2,2-diphenylethyl)-8-methyl- (9CI)
MF C24 H32 N O
CI COM



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, (3-endo)- (9CI)
MF C24 H31 N2 O
CI COM

Relative stereochemistry.

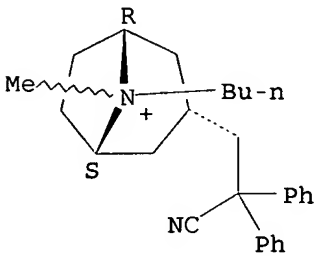


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 8-butyl-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, (3-endo)- (9CI)
MF C27 H35 N2

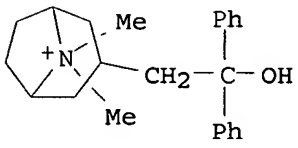
Print selected from 10565049_Specific.trn

CI COM

Relative stereochemistry.



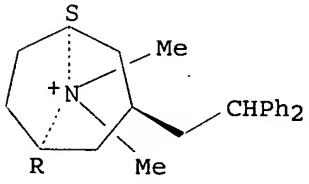
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 3-(2-Hydroxy-2,2-diphenylethyl)-8-methyltropanium bromide (6CI)
MF C23 H30 N O . Br



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI)
MF C23 H30 N . C7 H7 O3 S

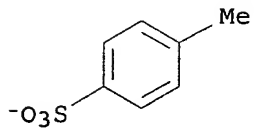
CM 1

Relative stereochemistry.



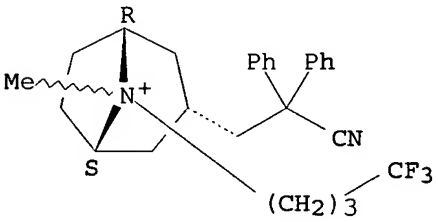
CM 2

Print selected from 10565049_Specific.trn

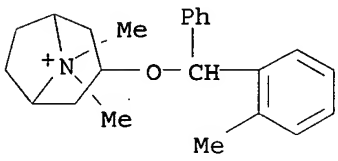


L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(4,4,4-trifluorobutyl)-, bromide, (3-endo,8-syn)- (9CI)
MF C27 H32 F3 N2 . Br

Relative stereochemistry.



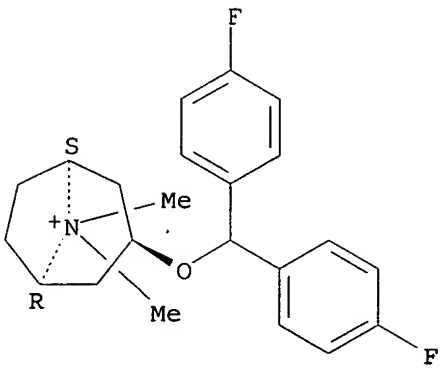
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Methyl-3-[(o-methyl-α-phenylbenzyl)oxy]tropanium iodide (7CI)
MF C23 H30 N O . I



L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-[bis(4-fluorophenyl)methoxy]-8,8-dimethyl-, (3-endo)- (9CI)
MF C22 H26 F2 N O
CI COM

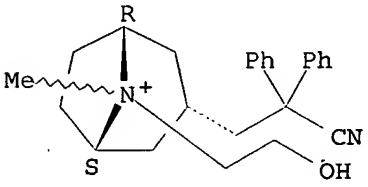
Relative stereochemistry.

Print selected from 10565049_Specific.trn



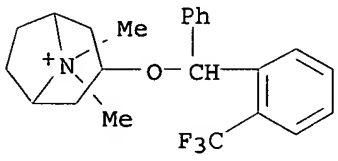
L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-hydroxyethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI)
MF C25 H31 N2 O . Br

Relative stereochemistry.



● Br^-

L8 88 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN Tropanium, 8-methyl-3-[[α-phenyl-o-(trifluoromethyl)benzyl]oxy]-, iodide (8CI)
MF C23 H27 F3 N O . I



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ALL ANSWERS HAVE BEEN SCANNED

Print selected from 10565049_Specific.trn

> s l8
L9 20 L8

=> d bib abs hitstr

L9 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:451115 CAPLUS <<LOGINID::20070221>>
DN 143:7605
TI A preparation of azabicyclo[3.2.1]octane derivatives, useful as M3 muscarinic acetylcholine receptor antagonists
IN Wan, Zehong; Yan, Hongxing; Palovich, Michael R.; Laine, Dramane I.; Lee, Dennis; Stavenger, Robert A.; Goodman, Krista B.; Hilfiker, Mark A.; Cui, Haifeng; Viet, Andrew W.; Marino, Joseph P.
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005046586	A2	20050526	WO 2004-US36663	20041104
	WO 2005046586	A3	20050728		
	WO 2005046586	A8	20050901		
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	EP 1682142	A2	20060726	EP 2004-810294	20041104
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR, IS				
PRAI	US 2003-517243P	P	20031104		
	WO 2004-US36663	W	20041104		

OS MARPAT 143:7605
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to a preparation of azabicyclo[3.2.1]octane derivs. of formula I•X- [wherein: X- is an anion; R1 is alkyl, alkenyl, alkylcycloalkyl, or alkyl-OMe, etc.; R2 is (cyclo)alkyl, heterocycloalkyl, or cycloalkylalkyl, etc.], useful as M3 muscarinic acetylcholine receptor antagonists (no biol. data). For instance, quaternary azabicyclo[3.2.1]octane derivative II•Br- was prepared via quaternization of N-methylazabicyclo[3.2.1]octane derivative III by cyclopropylmethyl bromide with a yield of 51%.

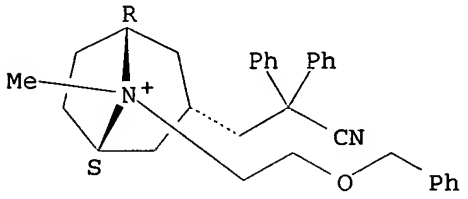
IT **852436-01-2P 852436-02-3P 852460-99-2P**
852461-00-8P 852461-01-9P 852461-02-0P
852461-03-1P 852461-04-2P 852461-05-3P
852461-06-4P 852461-07-5P 852461-08-6P
852461-09-7P 852461-10-0P 852461-11-1P
852461-12-2P 852461-13-3P 852461-14-4P

Print selected from 10565049_Specific.trn

852461-18-8P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of azabicyclo[3.2.1]octane derivs. useful as M3 muscarinic acetylcholine receptor antagonists)

RN 852436-01-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-[2-(phenylmethoxy)ethyl]-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

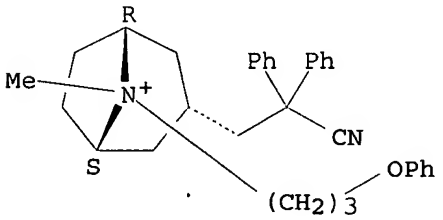
Relative stereochemistry.



● Br^-

RN 852436-02-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenoxypropyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

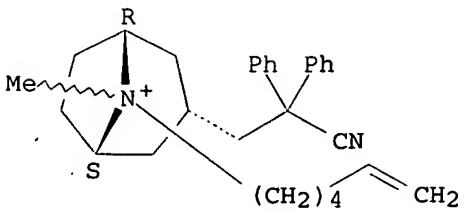


● Br^-

RN 852460-99-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(5-hexenyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

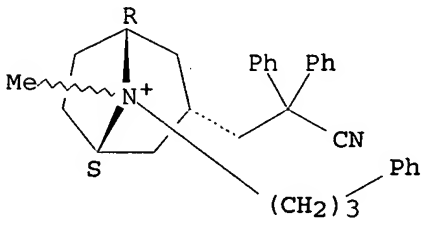
Print selected from 10565049_Specific.trn



● Br^-

RN 852461-00-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenylpropyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

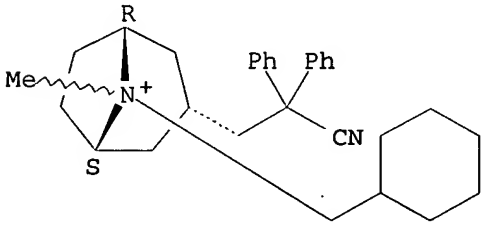
Relative stereochemistry.



● Br^-

RN 852461-01-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclohexylmethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

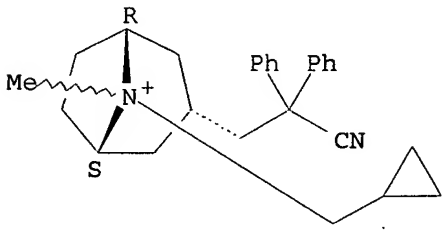


● Br^-

RN 852461-02-0 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclopropylmethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX

NAME)

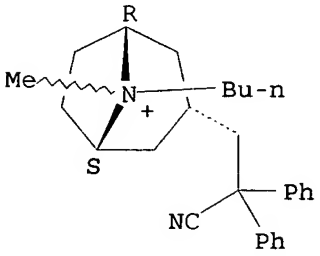
Relative stereochemistry.



● Br^-

RN 852461-03-1 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8-butyl-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

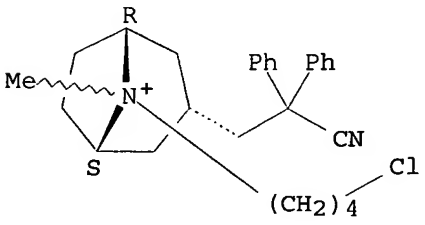
Relative stereochemistry.



● Br^-

RN 852461-04-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8-(4-chlorobutyl)-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



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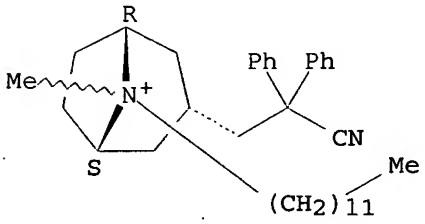
Print selected from 10565049_Specific.trn

RN 852461-05-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-dodecyl-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

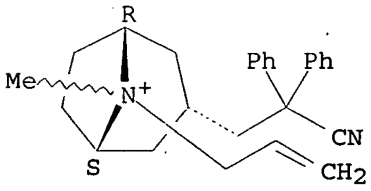
Relative stereochemistry.



● Br^-

RN 852461-06-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(2-propenyl)-, iodide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

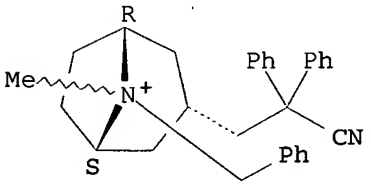
Relative stereochemistry.



● I^-

RN 852461-07-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(phenylmethyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



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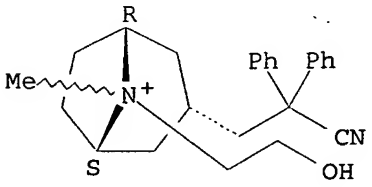
Print selected from 10565049_Specific.trn

RN 852461-08-6 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-hydroxyethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

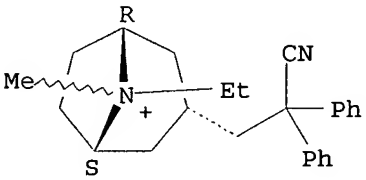
Relative stereochemistry.



● Br⁻

RN 852461-09-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-ethyl-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

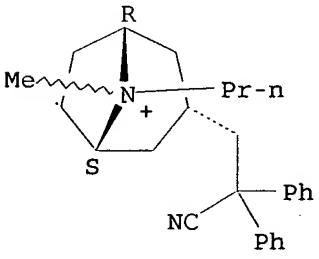
Relative stereochemistry.



● Br⁻

RN 852461-10-0 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-propyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

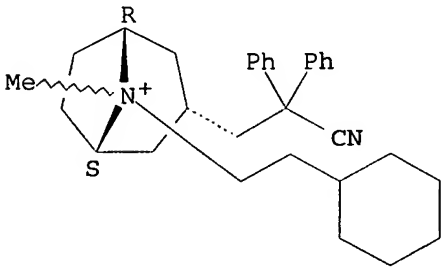


● Br⁻

Print selected from 10565049_Specific.trn

RN 852461-11-1 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-cyclohexylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

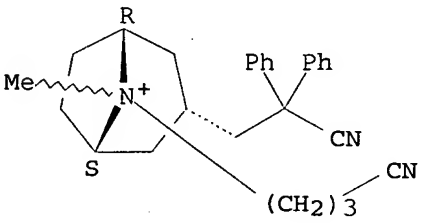
Relative stereochemistry.



● Br^-

RN 852461-12-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(3-cyanopropyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

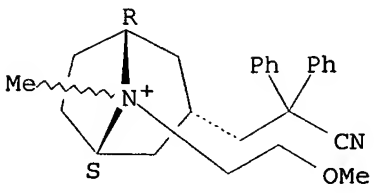


● Br^-

RN 852461-13-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-methoxyethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

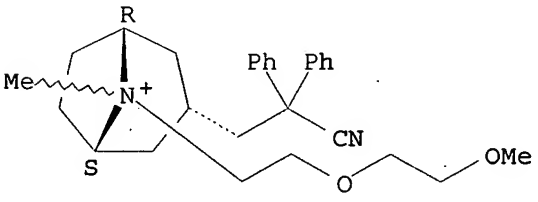
Print selected from 10565049_Specific.trn



● Br⁻

RN 852461-14-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-[2-(2-methoxyethoxy)ethyl]-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

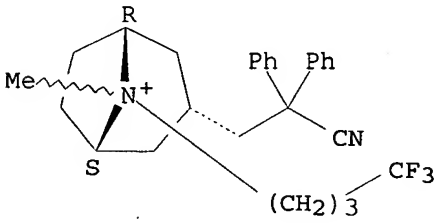
Relative stereochemistry.



● Br⁻

RN 852461-18-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(4,4,4-trifluorobutyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● Br⁻

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	5.74	196.68

Print selected from 10565049_Specific.trn

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE ENTRY TOTAL SESSION

CA SUBSCRIBER PRICE -0.78 -0.78

FILE 'STNGUIDE' ENTERED AT 10:18:01 ON 21 FEB 2007
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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Feb 16, 2007 (20070216/UP).

=> d bib abs hitstr 1-20
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS' - CONTINUE? (Y)/N:y

L9 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:451115 CAPLUS <<LOGINID::20070221>>
DN 143:7605
TI A preparation of azabicyclo[3.2.1]octane derivatives, useful as M3 muscarinic acetylcholine receptor antagonists
IN Wan, Zehong; Yan, Hongxing; Palovich, Michael R.; Laine, Dramane I.; Lee, Dennis; Stavenger, Robert A.; Goodman, Krista B.; Hilfiker, Mark A.; Cui, Haifeng; Viet, Andrew W.; Marino, Joseph P.
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005046586	A2	20050526	WO 2004-US36663	20041104
	WO 2005046586	A3	20050728		
	WO 2005046586	A8	20050901		
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	EP 1682142	A2	20060726	EP 2004-810294	20041104
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR, IS				
PRAI	US 2003-517243P	P	20031104		
	WO 2004-US36663	W	20041104		

OS MARPAT 143:7605
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to a preparation of azabicyclo[3.2.1]octane derivs. of

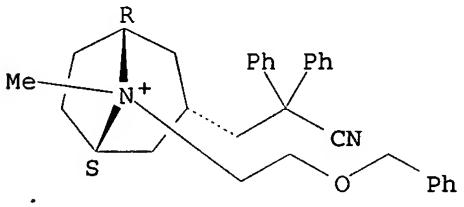
Print selected from 10565049_Specific.trn

formula I•X- [wherein: X- is an anion; R1 is alkyl, alkenyl, alkylcycloalkyl, or alkyl-OMe, etc.; R2 is (cyclo)alkyl, heterocycloalkyl, or cycloalkylalkyl, etc.], useful as M3 muscarinic acetylcholine receptor antagonists (no biol. data). For instance, quaternary azabicyclo[3.2.1]octane derivative II•Br- was prepared via quaternization of N-methylazabicyclo[3.2.1]octane derivative III by cyclopropylmethyl bromide with a yield of 51%.

IT **852436-01-2P 852436-02-3P 852460-99-2P**
852461-00-8P 852461-01-9P 852461-02-0P
852461-03-1P 852461-04-2P 852461-05-3P
852461-06-4P 852461-07-5P 852461-08-6P
852461-09-7P 852461-10-0P 852461-11-1P
852461-12-2P 852461-13-3P 852461-14-4P
852461-18-8P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of azabicyclo[3.2.1]octane derivs. useful as M3 muscarinic acetylcholine receptor antagonists)

RN 852436-01-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-[2-(phenylmethoxy)ethyl]-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

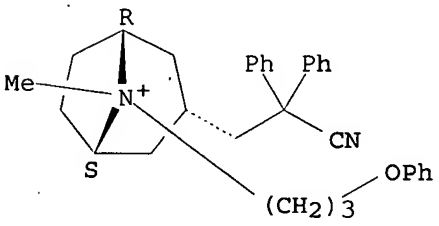
Relative stereochemistry.



● Br^-

RN 852436-02-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenoxypropyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



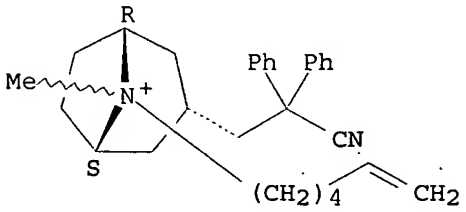
● Br^-

RN 852460-99-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(5-hexenyl)-

Print selected from 10565049_Specific.trn

8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

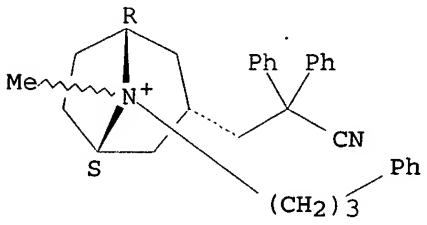
Relative stereochemistry.



● Br^-

RN 852461-00-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(3-phenylpropyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

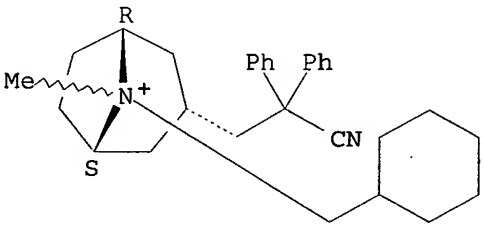
Relative stereochemistry.



● Br^-

RN 852461-01-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclohexylmethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

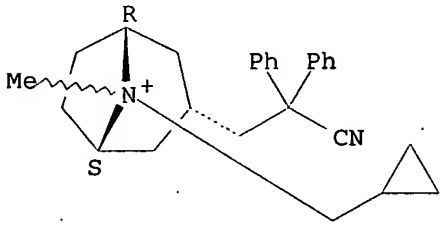


● Br^-

Print selected from 10565049_Specific.trn

RN 852461-02-0 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(cyclopropylmethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

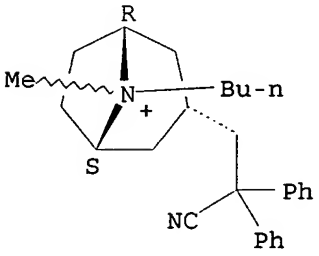
Relative stereochemistry.



● Br^-

RN 852461-03-1 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8-butyl-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

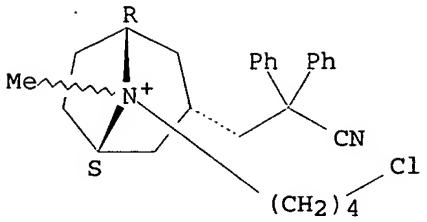


● Br^-

RN 852461-04-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8-(4-chlorobutyl)-3-(2-cyano-2,2-diphenylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

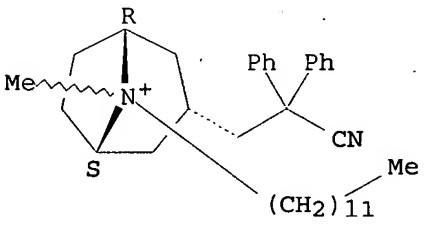
Print selected from 10565049_Specific.trn



● Br^-

RN 852461-05-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-dodecyl-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

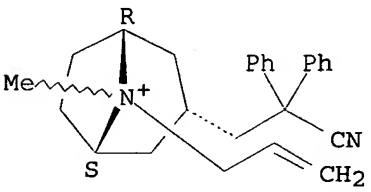
Relative stereochemistry.



● Br^-

RN 852461-06-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(2-propenyl)-, iodide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

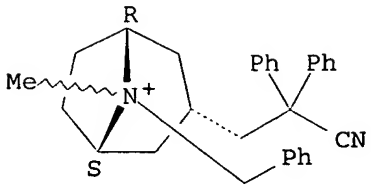


● I^-

RN 852461-07-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(phenylmethyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

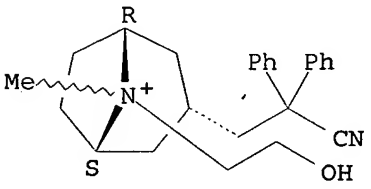
Print selected from 10565049_Specific.trn



● Br^-

RN 852461-08-6 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-hydroxyethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

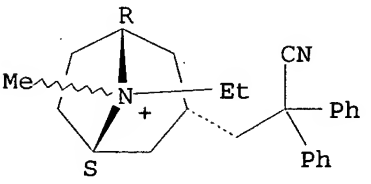
Relative stereochemistry.



● Br^-

RN 852461-09-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-ethyl-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

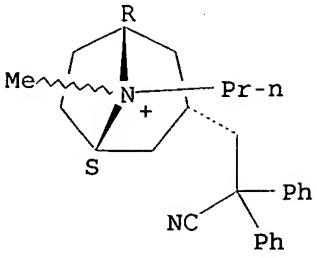


● Br^-

RN 852461-10-0 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-propyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

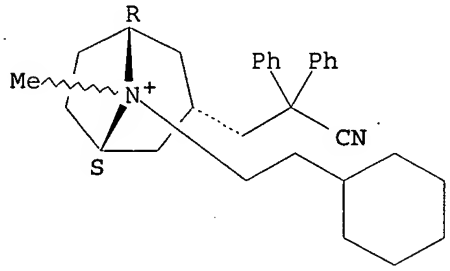
Print selected from 10565049_Specific.trn



● Br^-

RN 852461-11-1 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-cyclohexylethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

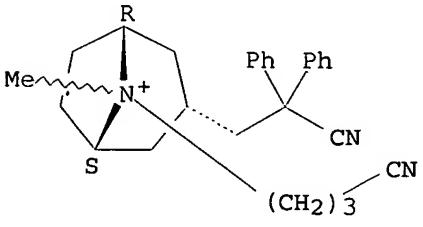
Relative stereochemistry.



● Br^-

RN 852461-12-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(3-cyanopropyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

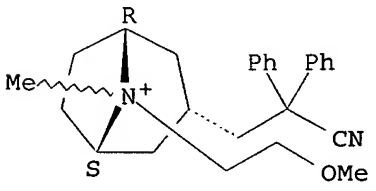


● Br^-

Print selected from 10565049_Specific.trn

RN 852461-13-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-(2-methoxyethyl)-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

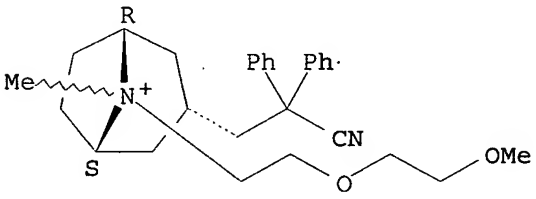
Relative stereochemistry.



● Br^-

RN 852461-14-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-[2-(2-methoxyethoxy)ethyl]-8-methyl-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

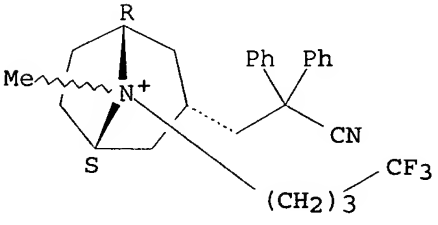
Relative stereochemistry.



● Br^-

RN 852461-18-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8-methyl-8-(4,4,4-trifluorobutyl)-, bromide, (3-endo,8-syn)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● Br^-

Print selected from 10565049_Specific.trn

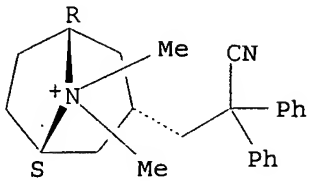
L9 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:369284 CAPLUS <<LOGINID::20070221>>
DN 142:423894
TI 8-Methyl-8-azabicyclo[3.2.1]octane derivative muscarinic acetylcholine receptor antagonists, their preparation, and their therapeutic use
IN Busch-Petersen, Jakob; Palovich, Michael R.; Wan, Zehong; Yan, Hongxing; Zhu, Chongjie
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005037280	A1	20050428	WO 2004-US33638	20041012
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2004281724	A1	20050428	AU 2004-281724	20041012
	CA 2542657	A1	20050428	CA 2004-2542657	20041012
	EP 1677795	A1	20060712	EP 2004-794886	20041012
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR				
	BR 2004015361	A	20061212	BR 2004-15361	20041012
	CN 1893948	A	20070110	CN 2004-80037266	20041012
	NO 2006002042	A	20060508	NO 2006-2042	20060508
PRAI	US 2003-511009P	P	20031014		
	WO 2004-US33638	W	20041012		

OS MARPAT 142:423894
AB 8-Methyl-8-azabicyclo[3.2.1]octane derivative muscarinic acetylcholine receptor antagonists are provided. Compound preparation is included. Compds. of the invention may be used to treat muscarinic acetylcholine receptor-mediated diseases.
IT **850607-57-7P 850607-58-8P 850607-61-3P 850607-71-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(azabicyclooctane derivative muscarinic acetylcholine receptor antagonists, preparation, and therapeutic use)
RN 850607-57-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

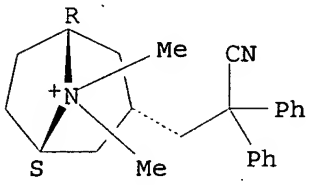
Print selected from 10565049_Specific.trn



● I^-

RN 850607-58-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-cyano-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

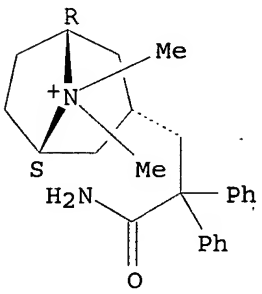
Relative stereochemistry.



● Br^-

RN 850607-61-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(3-amino-3-oxo-2,2-diphenylpropyl)-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

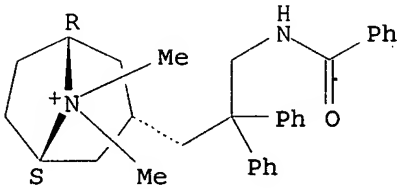


● I^-

RN 850607-71-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[3-(benzoylamino)-2,2-diphenylpropyl]-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Print selected from 10565049_Specific.trn

Relative stereochemistry.



● Br^-

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:99316 CAPLUS <<LOGINID::20070221>>
DN 142:183475
TI Muscarinic acetylcholine receptor antagonists
IN Belmonte, Kristen E.; Busch-Petersen, Jakob; Laine, Dramane; Palovich, Michael R.
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005009362	A2	20050203	WO 2004-US23041	20040716
	WO 2005009362	A3	20050407		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2004259238	A1	20050203	AU 2004-259238	20040716
	CA 2532433	A1	20050203	CA 2004-2532433	20040716
	EP 1648461	A2	20060426	EP 2004-778509	20040716
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR				
	CN 1822839	A	20060823	CN 2004-80020652	20040716
	BR 2004012537	A	20060919	BR 2004-12537	20040716
	US 2006178396	A1	20060810	US 2006-565048	20060117
	NO 2006000777	A	20060411	NO 2006-777	20060217
PRAI	US 2003-487982P	P	20030717		
	WO 2004-US23041	W	20040716		

OS MARPAT 142:183475
AB Muscarinic acetylcholine receptor antagonists, e.g., (3-endo)-3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and methods of using them are provided. In addition a pharmaceutical composition for

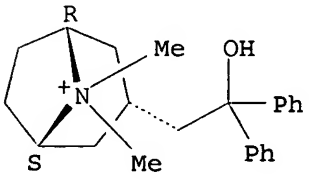
Print selected from 10565049_Specific.trn

the treatment of muscarinic acetylcholinereceptor-mediated diseases comprising the above compound is disclosed.

IT **106655-98-5 834882-85-8**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic acetylcholine receptor antagonists)

RN 106655-98-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



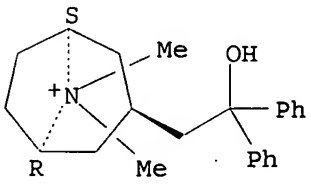
● Br^-

RN 834882-85-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

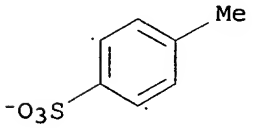
CRN 805224-99-1
CMF C23 H30 N O

Relative stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



Print selected from 10565049_Specific.trn

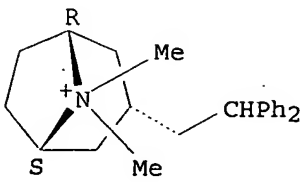
L9 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:96456 CAPLUS <<LOGINID::20070221>>
DN 142:183437
TI Muscarinic acetylcholine receptor antagonists
IN Belmonte, Kristen E.; Busch-Petersen, Jakob; Laine, Dramane; Palovich, Michael R.
PA Glaxo Group Limited, UK
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005009440	A1	20050203	WO 2004-US23042	20040716
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2004259239	A1	20050203	AU 2004-259239	20040716
	CA 2532379	A1	20050203	CA 2004-2532379	20040716
	EP 1648462	A1	20060426	EP 2004-778510	20040716
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR				
	CN 1822840	A	20060823	CN 2004-80020653	20040716
	BR 2004012679	A	20061003	BR 2004-12679	20040716
	US 2006160844	A1	20060720	US 2006-565049	20060117
	NO 2006000776	A	20060411	NO 2006-776	20060217
PRAI	US 2003-488061P	P	20030717		
	WO 2004-US23042	W	20040716		

OS MARPAT 142:183437
AB Muscarinic acetylcholine receptor antagonists, e.g., (3-endo)-3-(2,2-diphenylethyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and methods of using them are provided. In addition a pharmaceutical composition for the treatment of muscarinic acetylcholinereceptor-mediated diseases comprising the above compound is disclosed.
IT **106655-97-4 834881-83-3**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic acetylcholine receptor antagonists)
RN 106655-97-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

Print selected from 10565049_Specific.trn

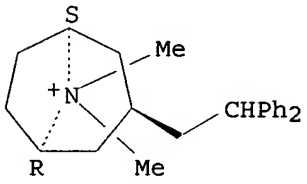


RN 834881-83-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

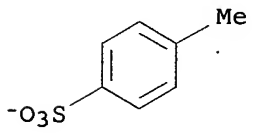
CRN 805224-98-0
CMF C23 H30 N

Relative stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:368293 CAPLUS <<LOGINID::20070221>>
DN 141:99524
TI Effects of N-substituted analogs of benztropine: Diminished cocaine-like effects in dopamine transporter ligands
AU Katz, Jonathan L.; Kopajtic, Theresa A.; Agoston, Gregory E.; Newman, Amy Hauck
CS Psychobiology, Medications Discovery Research Branch, National Institute

Print selected from 10565049_Specific.trn

on Drug Abuse Intramural Research Program, National Institutes of Health, Baltimore, MD, USA

SO Journal of Pharmacology and Experimental Therapeutics (2004), 309(2), 650-660
CODEN: JPETAB; ISSN: 0022-3565
PB American Society for Pharmacology and Experimental Therapeutics
DT Journal
LA English

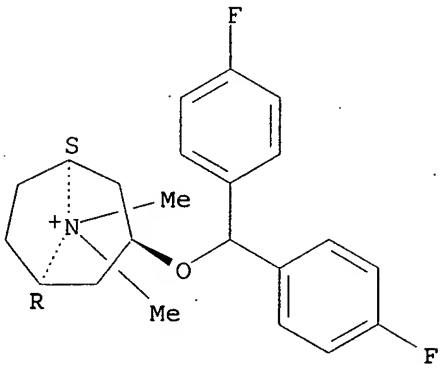
AB Previous studies demonstrated that analogs of benztropine (BZT) possess high affinity for the dopamine transporter, inhibit dopamine uptake, but generally have behavioral effects different from those of cocaine. One hypothesis is that muscarinic-M1 receptor actions interfere with cocaine-like effects. Several tropane-nitrogen substitutions of 4',4''-diF-BZT have reduced M1 affinity compared with the CH3-analog (AHN 1-055; 3α-[bis-(4-fluorophenyl)methoxy]tropane). All of the compds. displaced [3H]WIN 35,428 (2β-carbomethoxy-3β-(4-fluorophenyl)tropane) binding with affinities ranging from 11 to 108 nM. Affinities at norepinephrine ([3H]nisoxetine) and serotonin ([3H]citalopram) transporters ranged from 457 to 4810 and 376 to 3260 nM, resp., and at muscarinic M1 receptors ([3H]pirenzepine) from 11.6 (AHN 1-055) to higher values, reaching 1030 nM for the other BZT-analogs. Cocaine and AHN 1-055 produced dose-related increases in locomotor activity in mice, with AHN 1-055 less effective than cocaine. The other compds. were ineffective in stimulating activity. In rats discriminating cocaine (29 μmol/kg i.p.) from saline, WIN 35,428 fully substituted for cocaine, whereas AHN 1-055 produced a maximal substitution of 79%. None of the other analogs fully substituted for cocaine. WIN 35,428 produced dose-related leftward shifts in the cocaine dose-effect curve, whereas selected BZT analogs produced minimal changes in the effects of cocaine. The results suggest that reducing M1 affinity of 4',4''-diF-BZT with N-substitutions reduces effectiveness in potentiating the effects of cocaine. Furthermore, although the BZT-analogs bind with high affinity at the dopamine transporter, their behavioral effects differ from those of cocaine. These compds. have reduced efficacy compared with cocaine, a long duration of action, and may serve as leads for the development of medications to treat cocaine abuse.

IT **202646-01-3**, JHW 025
RL: ADV (Adverse effect, including toxicity); PAC (Pharmacological activity); BIOL (Biological study)
(diminished cocaine-like effects in dopamine transporter ligands made from N-substitution of benztropine)

RN 202646-01-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[bis(4-fluorophenyl)methoxy]-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

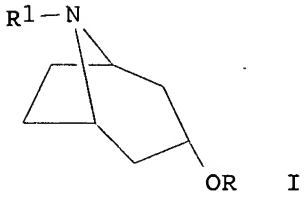
Relative stereochemistry.

Print selected from 10565049_Specific.trn



RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:35528 CAPLUS <<LOGINID::20070221>>
DN 128:154260
TI Novel N-substituted 3α-[bis(4'-fluorophenyl)methoxy]tropane analogs: selective ligands for the dopamine transporter
AU Agoston, Gregory E.; Wu, Jae H.; Izenwasser, Sari; George, Clifford; Katz, Jonathan; Kline, Richard; Newman, Amy Hauck
CS Psychobiology Section, Nat. Inst. Drug Abuse, Intramural Research Program, National Inst. Health, Baltimore, MD, 21224, USA
SO Journal of Medicinal Chemistry (1997), 40(26), 4329-4339
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
GI



I

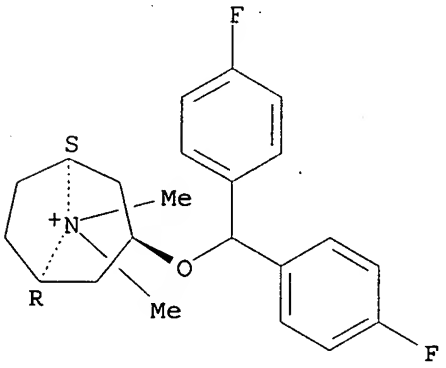
AB A series of N-substituted 3α-[bis(4'-fluorophenyl)methoxy]tropane analogs I [R = CH(C6H4-4-F)2, R1 = Ph(CH2)3, 2-(3-indolyl)ethyl, Ph(CH2)4, 4-NO2-C6H4(CH2)4, 4-F-C6H4(CH2)3, Bu, cyclopropylmethyl, allyl, benzyl, 4-fluorobenzyl, cinnamyl, (CH2)2OCH(C6H4-4-F)2, (CH2)2OCH(Ph)C6H4-4-NO2, acetyl, formyl, tolyl, mesyl, Me(MeI) (N-Me methiodide), H] were prepared from I [R = CH(C6H4-4-F)2, R1 = H] via acylation followed by hydride reduction of the amide or by direct alkylation to function as dopamine uptake inhibitors. The N-methylated analog of this series had a significantly higher affinity for the dopamine transporter than the parent compound, N-methyl-3α-(diphenylmethoxy)tropane (benztropine, Cogentin). Yet like the parent compound, it retained high affinity for muscarinic

receptors. All compds. containing a basic tropane nitrogen displaced [3H]-WIN 35,428 at the dopamine transporter (Ki range = 8.5-634 nM) and blocked dopamine uptake (IC50 range = 10-371 nM) in rat caudate putamen, whereas ligands with a nonbasic nitrogen were virtually inactive. None of the compds. demonstrated high binding affinity at norepinephrine or serotonin transporters. Importantly, a separation of binding affinities for the dopamine transporter vs. muscarinic m1 receptors was achieved by substitution of the N-Me group with other N-alkyl or arylalkyl substituents (eg. Bu, allyl, benzyl, 3-phenylpropyl, etc.). Addnl., the most potent and selective analog in this series at the dopamine transporter, I [R = CH(C6H4-4-F)2, R1 = Ph(CH2)4], failed to substitute for cocaine in rats trained to discriminate cocaine from saline. Potentially, new leads toward the development of a pharmacotherapeutic for cocaine abuse and other disorders affecting the dopamine transporter may be discovered.

IT **202646-01-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of N-substituted 3α-[bis(4'-fluorophenyl)methoxy]tropane analogs to be selective ligands for dopamine transporter for use as treatment of cocaine abuse)

RN 202646-01-3 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[bis(4-fluorophenyl)methoxy]-8,8-dimethyl-, iodide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● I⁻

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

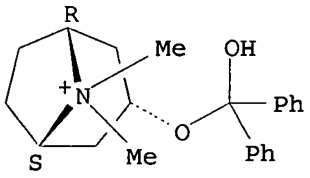
L9 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1972:443065 CAPLUS <<LOGINID::20070221>>
DN 77:43065
TI Stereochemical studies of antimuscarinic agents. Diastereoisomeric esters of 3-tropanol, 1,3-dimethyl-4-piperidinol, and related compounds
AU Biggs, D. F.; Casy, A. F.; Jeffery, W. K.
CS Fac. Pharm. Pharm. Sci., Univ. Alberta, Edmonton, AB, Can.
SO Journal of Medicinal Chemistry (1972), 15(5), 506-9
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
AB Isomeric tropanol esters, and the analogous 1,3-dimethyl-4-piperidinol

[3518-80-7] esters which lack the 2,6-bimethylene bridge, showed a clear preference for the axial arrangement of the ester group for blockade of muscarinic receptors in the guinea pig ileum. Thus, 3α-tropanol benzilate methiodide (I) [21735-94-4] and 3β-tropanol benzilate methiodide (II) [35174-61-9] had relative potencies of 1047 and 389, resp. (atropine=1000). Substituents α to the acyloxy group, whether axial or equatorial, lead to pronounced falls in the cholinolytic potency. Differences in the mydriatic ED50 values of isomeric pairs were insignificant. The most potent compound tested was 1-methyl-3-piperidyl benzilate (III) [3321-80-0], with a relative potency of 1,549.

IT **38528-43-7 38528-44-8**
RL: BIOL (Biological study)
(antimuscarinic activity of)

RN 38528-43-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(hydroxydiphenylmethoxy)-8,8-dimethyl-, iodide, endo- (9CI) (CA INDEX NAME)

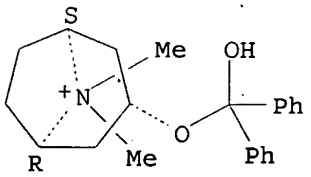
Relative stereochemistry.



● I^-

RN 38528-44-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(hydroxydiphenylmethoxy)-8,8-dimethyl-, iodide, exo- (9CI) (CA INDEX NAME)

Relative stereochemistry.

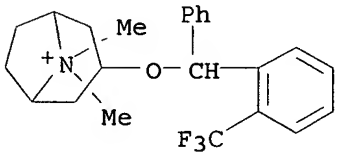


● I^-

L9 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1965:454346 CAPLUS <<LOGINID::20070221>>
DN 63:54346
OREF 63:9853d-g
TI The effect of alkyl substitution in drugs. IX. Synthesis and properties of some trifluoromethyl-substituted benzhydryl ether derivatives
AU Stelt, C. van der; Funcke, A. B. H.; Nauta, W. Th.
CS Koninkl. Factory, Amsterdam

Print selected from 10565049_Specific.trn

SO Arzneimittel-Forschung (1964), 14(8), 864-7
CODEN: ARZNAD; ISSN: 0004-4172
DT Journal
LA English
AB cf. CA 61, 4303e; 63, 7513g. A number of basic ethers of benzhydrol, with a CF3 substituent in the 2-, 3- or 4-position were prepared The o-, m- and p-trifluoromethyl benzhydrols used as intermediates were prepared by reaction of the corresponding α,α,α-trifluorotoluene (CF3Ph) with BuLi and PhCHO, or better, by reaction of α,α,α-trifluorotolylmagnesium bromide with PhCHO. The carbinols thus formed gave with CrO3 the corresponding ketones. Ethers were prepared by reaction of the carbinols with basic alc. and p-MeC6H4SO3H. Thus prepared were R1C6H4-CHPhR2 (given R1, R2, acid with which salt formed, m.p. or b.p., and % yield given) 2-CF3, OH, 115°/3 mm., 73; 2-CF3, α-phenyl-o-trifluoromethylbenzyloxy, 156-8°, -; 2-CF3, 2-(dimethylamino)ethoxy, fumaric, 103-4°, 65; 2CF3, 2-[2-(dimethylamino)ethoxy]ethoxy, oxalic, 99-101°, 59; 2-CF3, (diethylamino)pent-4-yloxy, citric, 102-4°, 40; 2-CF3, 2-N-pyrrolidylethoxy, fumaric, 139-40°, 60; 2-CF3, 2-(morpholino)ethoxy, oxalic, 139-40°, 57; 2-CF3, 3-tropanoxy, fumaric, 181-3°, 67; 2-CF3, 3-tropanoxy, methiodide, 2235°, 87; 3-CF3, OH, 61-2°, 76; 3-CF3, 2-(dimethylamino)ethoxy, fumaric, 119-21°, 72; 3-CF3, 2-(dimethylamino)ethoxy, methiodide, 142-4°, 80; 3-CF3, (diethylamino)pent-4-yloxy, citric, 89-90°, 72; 3-CF3, 2-N-pyrrolidylethoxy, fumaric, 133-4°, 41; 3-CF3, 3-tropanoxy, fumaric, 156-8°, 70; 3-CF3, 2-N-morpholinylethoxy, fumaric, 111-12°, 66; 4-CF3, α-phenyl-p-trifluoromethylbenzyloxy, -, 146-7°, -; 4-CF3, (dimethylamino)prop-2-oxy, fumaric, 188-9°, 38; 4-CF3, 2-N-pyrrolidylethoxy, fumaric, 156-7°, 54; 4-CF3, 2-(morpholino)ethoxy, fumaric, 148-9°, 38; 4-CF3, 3-tropanoxy, fumaric, 185-6°, 45. Ketones (RC6H4Bz) prepared were (R and m.p. given): 2-CF3, 57-9°; 3-CF3, 53-4°; 4-CF3, 116-18°.
The compds. were examined for pharmacol. properties, including spasmolytic action against smooth muscle spasms.
IT **3216-06-6P**, Tropanium, 8-methyl-3-[[α-phenyl-o-(trifluoromethyl)benzyl]oxy]-, iodide
RL: PREP (Preparation)
(preparation of)
RN 3216-06-6 CAPLUS
CN Tropanium, 8-methyl-3-[[α-phenyl-o-(trifluoromethyl)benzyl]oxy]-, iodide (8CI) (CA INDEX NAME)

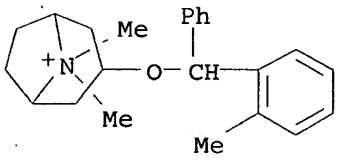


● I⁻

L9 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1964:410767 CAPLUS <<LOGINID::20070221>>
DN 61:10767
OREF 61:1713f-g

Print selected from 10565049_Specific.trn

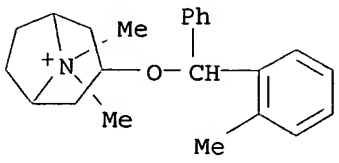
TI Determination of carbamates applied to some tranquilizers
AU Devaux, G.; Mesnard, P.; Cren, J.
SO Bulletin de la Societe de Pharmacie de Bordeaux (1961), 100(4), 231-7
CODEN: BSPBAD; ISSN: 0037-9093
DT Journal
LA Unavailable
AB Carbamates are determined upon formation of a Co complex with the product of alkaline hydrolysis. Meprobamate, Et carbamate and the carbamates of 3-methyl-1- pentyn-3-ol and 1-(2-propynyl)cyclohexanol were determined by measurement at 610 mμ.
IT **100733-36-6**, 8-Methyl-3-[(o-methyl-α-phenylbenzyl)oxy]tropanium iodide
(determination of, review on)
RN 100733-36-6 CAPLUS
CN 8-Methyl-3-[(o-methyl-α-phenylbenzyl)oxy]tropanium iodide (7CI) (CA INDEX NAME)



● I⁻

L9 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1964:410766 CAPLUS <<LOGINID::20070221>>
DN 61:10766
OREF 61:1713f
TI The control of pharmaceuticals. VII. The ultraviolet and infrared spectrophotometric assay of benzhydryl ethers
AU Rekker, R. F.; de Roos, A. M.
CS Brocades-Stheeman Pharm., Amsterdam
SO Pharmaceutisch Weekblad (1963), 98(24), 1085-98
CODEN: PHWEAW; ISSN: 0031-6911
DT Journal
LA English
AB CA 55, 9536i. A review.
IT **100733-36-6**, 8-Methyl-3-[(o-methyl-α-phenylbenzyl)oxy]tropanium iodide
(determination of, review on)
RN 100733-36-6 CAPLUS
CN 8-Methyl-3-[(o-methyl-α-phenylbenzyl)oxy]tropanium iodide (7CI) (CA INDEX NAME)

Print selected from 10565049_Specific.trn



● I^-

L9 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1963:27160 CAPLUS <<LOGINID::20070221>>
DN 58:27160
OREF 58:4510b-h
TI 3-Substituted tropane derivatives. III. 3-Substituted tropane carbinols, alkenes, and alkanes
AU Zirkle, Charles L.; Anderson, Elvin L.; Craig, Paul N.; Gerns, Fred R.; Indik, Zena K.; Pavloff, Alex M.
CS Smith, Kline, & French Labs., Philadelphia, PA
SO Journal of Medicinal & Pharmaceutical Chemistry (1962), 5, 341-56
CODEN: JMPCAS; ISSN: 0095-9065
DT Journal
LA Unavailable
OS CASREACT 58:27160
GI For diagram(s), see printed CA Issue.
AB cf. CA 57, 3389b. For testing as cholinolyti: agents, a series of 3-substituted tropane derivs. (Ia) were prepared by the following sequence: (X = 3α-, or 3β-tropinyl) X(CH2)nCO2Me → X(CH2)nCOR (I) → X(CH2)nC(OH)RR' (II) → X: CRR' (III), XCH:CRR' (IV), or XCH2CH:CRR' (V) → X(CH2)nCHRR' (VI) using the procedures followed by Adamson for open-chain analogs (Adamson, et al., CA 45, 8462f). Compds. prepared were (compound number, tropinyl group configuration, n, R, R', % yield, m.p., b.p./pressure, n25D, salts prepared with m.p. of each, and relative activity (atropine = 1) given): I, α, 0, 2-thienyl, --, 4.4, --, 142-3°/ 0.4, --, picrate 259°, --; I, α, 1, Ph, --, 75,--, 140-3°/0.2,--, HCl 140-3°, --; I, α, 1, cyclohexyl, --, 35, --, 142-4°/0.8, --, picrate 165-8°, MeBr 297-9°, --; I, α, 1, 2-cyclohexylethyl, --, 74, --, 157-64°/0.7, 1.5010, picrate 148-50°, --; I, α, 2, Et, --, 77, --, 105-9°/0.35, 1.4870, picrate 123.0-4.5°, --; II, β, O, Me, Me, 84, --, 116-19°/4, --, picrate 167.5-9.0°, MeI 199-202°, --; II, α, O, 2-thienyl, 2-thienyl, 8.0, 157.5-9.0°,--,--,--,--; II, α, O, Ph, Ph, 47, 185.5-6.0°, --, --, HCl 290°, citrate 112-18% picrate 214.0-15.5°, MeBr 309-10°, citrate 0.001, MeBr salt 0.1; II, β, O, Ph, Ph, 86, 182-4°,--,--, HCl 325°, picrate 230-1°, HCl salt 0.001; II, α, 1, Ph, Ph, 76, 147-8°, --, --, HCl 235°, HBr 230°, MeBr 282°, HCl salt 1, MeBr salt 0.1-1.0; II, β, 1, Ph, Ph, --, 178-9°, --, --, HCl 253.5°, HCl salt 0.001; II, α, 1, cyclohexyl, Ph, 90, 139.0-40.5°,--,--, HCl 254-5°, MeBr 262°, HCl salt 0.1; II, α, 1, 2-cyclohexylethyl, Ph, above 66, 104-6°,--,--, HCl 215-16°, citrate 134-6°, MeBr 263-5°, HCl salt 0.01; II, α, 1, Ph, Et, 12, --, --, --, HCl 237°, HCl salt 0.01-0.10; II, α, 1, 2-pyridyl, Ph, 64, 117.5-18.5°, --, --, HI 194-6°, dipicrate 191-2°, MeBr 268°, HI salt 0.01; II, α, 1, Ph, 2-thienyl, 73, 137.5-9.0°,--,--, maleate

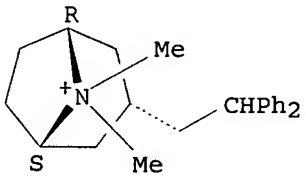
145-6°, MeBr 256°, maleate 1; II, α, 1,2-thienyl, 2-thienyl, 69, 138-40°, --, --, HOAc 189-90°, MeBr 245.5°, HOAc salt 1; II, α, 2, Ph, Ph, 92, 142-3°, --, --, HCl 249-50°, MeBr 299°, HCl salt 0.01, MeBr salt 0.1; III, --, --, Ph, Ph,--,--,--,--,HCl 275-8°, picrate 237-8°, MeBr 281-5°, HCl salt 0.01, MeBr salt 0.1-1.0; III,--,--, 2-thienyl, 2-thienyl, 76 --,--,-- HCl 224-5°, --; IV, α, --, Ph, Ph, 100, 111-12°, --, --, HCl 217-18°, picrate 186-8°, MeBr 286° HCl salt 1-10, MeBr salt 0.1-1.0; IV, α --, cyclohexyl, Ph, 95,--,--,--, HCl 195-6°, HI 222.5-4.0°, MeBr 250-5° HCl salt 1; IV, α, --, Ph, Et,--,--,--,--, HCl 214-15°, --; IV, α, --, Ph, 2-pyridyl, 78, 97.5-9.5, --, -- tartrate 165-7°, picrate 204-6°, MeBr 227-8°, --; IV, α, --, Ph, 2-thienyl, 96, 65-70, --, --, HCl 194-200° tartrate 174-5° picrate 209-10°, MeBr 258-9°, tartrate 0.1-1.0; IV, α, --, 2-thienyl, 2-thienyl, 76,--,--,--, HCl 230-2°,picrate 190-2°, MeBr 252-3°, HCl salt 1; V, α, --, Ph, Ph, --,--,--, citrate 174°, MeBr 280°, citrate 0.001, MeBr salt 0.01; VI, α, O, Me, Me, -- --, 109-11°/29, 1.4739, HCl 194- 6% MeI 224-6°,--; VI, α, O, Ph, Ph,--, 70-2°,--,--, HCl above 310°, MeBr 277-8°, HCl 0.01, MeBr salt 0.1; VI, α, 1,Ph, Ph,--,--,--,--, HCl 244-5°, MeBr 257-8° HCl salt 1-10, MeBr 1; VI, α, 1, cyclohexyl, Ph,--,--,--,--, HCl 167.0-8.5°, citrate 153-5°, picrate 140-1°, MeBr 259-60°, citrate 0.1-1.0; VI, α, 1, 2-cyclohexylethyl, Ph,--,--,--,--, HCl 198-200°. --; VI, α, 1, Ph, 2-pyridyl,--,--,--,--, tartrate 78-80°picrate 201-3°, --; and VI, α, 2, Ph, Ph,--,--,--,--, citrate 170°, MeBr 277°, citrate 0.001-0.010, MeBr salt 0.01.

IT **106655-97-4P**, 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide **106655-98-5P**, 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide
RL: PREP (Preparation)
(preparation of)

RN 106655-97-4 CAPLUS

CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



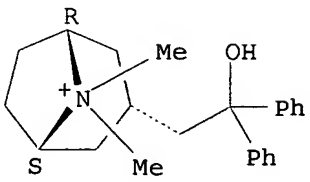
● Br^-

RN 106655-98-5 CAPLUS

CN 8-Azoniabicyclo[3.2.1]octane, 3-(2-hydroxy-2,2-diphenylethyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

Print selected from 10565049_Specific.trn



● Br^-

L9 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1962:436139 CAPLUS <<LOGINID::20070221>>
DN 57:36139
OREF 57:7172f-i,7173a-c
TI Therapeutic active ethers of trifluoromethyl substituted benzhydrols
PA N. V. Koninklijke Pharmaceutische Fabrieken voorheen Brocades-Stheeman & Pharmacia
SO 11 pp.
DT Patent
LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 611572		19611229	BE	
	DE 1185195			DE	
	FR M1655			FR	
	GB 965293			GB	
	NL 111445			NL	
PRAI	NL		19601219		

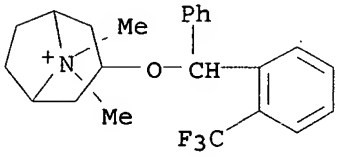
OS MARPAT 57:36139
AB These new ethers or their salts or quaternary NH4 salts are synthesized by known methods starting from the substituted benzhydrol in benzhydryl chloride. They have the formula m-F3CC6H4CH(OYZ)Ph, where Y is a straight or branched hydrocarbon with maximum 6 C atoms, possibly with an O atom, e.g.: ethylene, propylene, isopropylene, butylene, pentylene, isopentylene, or a 3-oxapentylene group. Z is a dialkylamino group in which 1 or 2 of the alkyl groups form with the N atom or with the hydrocarbon chain 1 or more heterocyclic rings possibly with another heteroatom, e.g.: dimethyl-, diethyl-, or dicyclohexylamine or a piperidino, morpholino, pyridino, pyrrolidino, or thiomorpholino group. Groups in which Y and Z form an heterocycle are: 2- or 3-pyrrolidylmethylene-, 2-, 3-, or 4-piperidyl or tropinyl group. The salts may be of organic or inorg. acids. A great part of the ethers have anti-acetylcholine activity. p-Substituted compds. have stimulating activity. They have a psychotropic activity appearing from the stimulated metabolism of γ-aminobutyric acid and glutamic acid in brain tissue. Thus, 20.2 g. 2-(trifluoromethyl)benzhydrol, 12.4 g. tropine, and 16.5 g. p-MeC6H4SO3H are heated at 180-190° for 5 hrs. in vacuo. After cooling, the mixture is poured in H2O and extracted with ether. The aqueous layer is made alkaline and extracted with ether. Distillation gives 66.5% tropinyl 2-(trifluoro methyl)benzhydryl ether, b3 185°. Salts are prepared by addition of the acid to an ethereal solution The following salts were prepared (m.p. given): β-dimethylaminoethyl 3-trifluoromethylbenzhydryl ether fumarate, 119-21°; -dimethylaminoethyl 3-trifluoromethylbenzhydryl ether methiodide, 141.5-3.5°; 5-diethylamino-2-pentyl 3-trifluoromethylbenzhydryl ether citrate, 88.5-90°; (N-pyrrolidyl)ethyl 3-trifluoromethylbenzhydryl ether fumarate,

132.5-3.5°; tropinyl 3-trifluoromethylbenzhydryl ether fumarate, 156-8°; -morpholinoethyl 3-trifluoromethylbenzhydryl ether fumarate, 111-12°;-dimethylaminoethyl 2-trifluoromethylbenzhydryl ether oxalate, 88.5-90.5°;-dimethylaminoethyl 2-trifluoromethylbenzhydryl ether fumarate, 103-4°;-dimethylaminoethoxyethyl 2-trifluoromethylbenzhydryl ether oxalate, 99-100.5°; 5-diethylamino-2-pentyl 2-trifluoromethylbenzhydryl ether citrate, 101.5-3.5°;-(Npyrrolidyl)ethyl 2-trifluoromethylbenzhydryl ether fumarate, 138.5-9.5°;-morpholinoethyl 2-trifluoromethylbenzhydryl ether oxalate, 138.5-40°; tropinyl 2-trifluoromethylbenzhydryl ether fumarate, 181-3°; tropinyl 2-trifluoromethylbenzhydryl ether methiodide, 223-5°;-dimethylaminoethyl 4-trifluoromethylbenzhydryl ether fumarate, 163-4°;-dimethylaminoisopropyl 4-trifluoromethylbenzhydryl ether fumarate, 188-8.5°;-(N-pyrrolidino)ethyl 4-trifluoromethylbenzhydryl ether fumarate, 155.5-6.5°; tropinyl 4-trifluoromethylbenzhydryl ether fumarate, 1855°;-morpholinoethyl 4-trifluoromethylbenzhydryl ether fumarate, 148-9°.

IT **3216-06-6P**, Tropanium compounds, 8-methyl-3-[[α-phenyl-o-(trifluoromethyl)benzyl]oxy]-, iodide
RL: PREP (Preparation)
(preparation of)

RN 3216-06-6 CAPLUS

CN Tropanium, 8-methyl-3-[[α-phenyl-o-(trifluoromethyl)benzyl]oxy]-, iodide (8CI) (CA INDEX NAME)



● I⁻

L9 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1962:53583 CAPLUS <<LOGINID::20070221>>

DN 56:53583

OREF 56:10207g-h,10208a

TI Halogenated analogs of tropine benhydryl ether

IN Fromer, Stephen

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 1249205		19610315	FR 1955-692102	19550520
PRAI	FR		19550520		

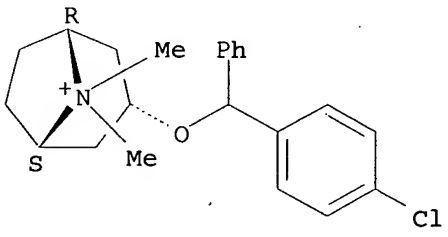
AB The title compds. are prepared by treating tropine with a halogenated diphenyldiazomethane or a halogenated benzhydryl chloride or by treating 3-chlorotropane with a halogenated benzhydrol. Thus, 90 g. 4-chlorobenzophenone (I), 23 g. N2H4, and 100 ml. alc. is heated to 150° 4 hrs., diluted with 400 ml. H2O, extracted with Et2O, the extract dried (MgSO4), concentrated to a residue of 105 g. (I hydrazone), the latter dissolved in 450 ml. petr. ether, 87 g. yellow HgO added with vigorous

stirring within 15 min., the purple mixture stirred overnight, filtered, the solids washed with petr. ether, the combined filtrate and washings concentrated in vacuo below 40°, 56 g. tropine and 35 ml. C6H6 added immediately to the thick sirup (4-chlorodiphenyldiazomethane), the mixture refluxed on the steam bath 24 hrs., 200 ml. C6H6 added, the solution extracted with 2N H2SO4, the aqueous layer washed with C6H6 and Et2O, made alkaline with 35% aqueous NaOH, the liberated oil extracted with Et2O, the extract washed with H2O, dried (K2CO3), treated with alc. HCl (acidic reaction with Congo red paper), the suspension cooled to 0° 1 hr., filtered, and washed with Et2O to give tropine 4-chlorobenzhydryl ether-HCl, m. 210-12° (iso-PrOH). Similarly are prepared the following tropine benzhydryl ethers (substituent(s) in benzene ring, type of salt, and m.p. given): 4-Br, HCl, 175-7°; 4-I, HCl, 162-4°; 4,4'-Cl2, HCl, 212-14°; 2-Cl, HI, 192-4°; 2,4-Cl2, -, -; 4-Cl, HBr, 197-200°; 4-Cl, HI, 177-80°; 4-Cl, MeBr, 245-8°; 4-Cl, 261-3°. The compds. exhibit excellent antispasmodic and antihistaminic activity.

IT **100274-58-6P**, 3-O-(p-Chloro-α-phenylbenzyl)-8-methyltropinium chloride **100407-36-1P**, 3-O-(p-Chloro-α-phenylbenzyl)-8-methyltropinium bromide
RL: PREP (Preparation)
(preparation of)

RN 100274-58-6 CAPLUS
CN 3-O-(p-Chloro-α-phenylbenzyl)-8-methyltropinium chloride (7CI) (CA INDEX NAME)

Relative stereochemistry.

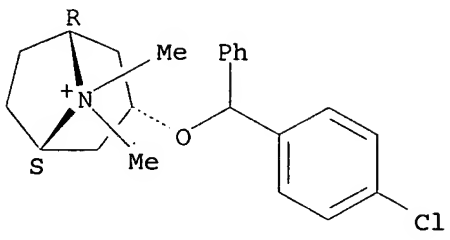


● Cl⁻

RN 100407-36-1 CAPLUS
CN 3-O-(p-Chloro-α-phenylbenzyl)-8-methyltropinium bromide (7CI) (CA INDEX NAME)

Relative stereochemistry.

Print selected from 10565049_Specific.trn



● Br^-

L9 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1961:87612 CAPLUS <<LOGINID::20070221>>
DN 55:87612
OREF 55:16582h-i,16583a-f
TI Alkaloid syntheses. XIII. Syntheses of scopine benzhydryl ethers
AU Renz, J.; Lindenmann, A.
CS Sandoz Akt.Ges., Basel, Switz.
SO Z. physiol. Chem. (1960), 321, 148-60
DT Journal
LA Unavailable
AB cf. CA 54, 11064a. The conversion of 6β-hydroxytropinone (I) and N-ethyl-6β-hydroxynortropinone (II) to the 3α-benzhydryl ethers of scopine and N-ethylnorscopine was described. I (25 g.) with Ac2O-C5H5N gave 29 g. 6β acetoxytropinone (III), b0.8 129-32°; hydrobromide m. 192-4° (decomposition); hydrochloride m. 199-200° (decomposition). III (5.6 g.) in MeOH hydrogenated 6 hrs. at 45° over Raney Ni gave quant. 6β-acetoxy-3α-tropanol (IV), b0.08 130-3°, hygroscopic; naphthalene-1,5-disulfonate m. 237-9° (decomposition). IV (10 g.) and 2.6 g. Na2CO3 stirred at 110° and treated with 13.6 g. Ph2CHBr in 6 ml. C6H6 during 1 hr. and the mixture heated 4 hrs. at 125° gave 9.0 g. 6βacetoxy-3α-tropyl benzhydryl ether (V), m. 109-11° (C6H6). 3α,6β-Dihydroxytropane (3.0 g.), 1.0 g. Na2CO3, and 9.4 g. Ph2CHBr similarly gave 722 mg. 6β-hydroxy-3α-tropyl benzhydryl ether (VI), m. 134-5° (C6H6-petr. ether) [hydrobromide m. 237-9° (decomposition)], and 3α-hydroxy-6β-tropyl benzhydryl ether, m. 146-8° (Me2CO-petr. ether) [hydrobromide m. 217-19° (decomposition)]. 6β-Phenylcarbamoyloxy-3α-tropanol (2.76 g.), 0.53 g. Na2CO3, and 2.47 g. Ph2CHBr similarly gave the ether (VII), m. 154-6° (C6H6-petr. ether), which heated at 195° and 0.05 mm. yielded VI, b0.15 230-40°. Saponification of 10.0 g. V gave 9.0 g. VI. VI (12.0 g.) in 36 ml. CHCl3, 3.0 ml. C5H5N, and 2.88 ml. MeSO2Cl kept 50 min. and refluxed 5 hrs. gave 14.1 g. 6βmesyloxy-3α-tropyl benzhydryl ether (VIII), m. 87-9° (C6H6-petr. ether); naphthalene-1,5-disulfonate m. 194-5° (decomposition). VIII (2.25 g.), 4.5 ml. Et3N, and 0.3 ml. PhNEt2 heated 2 hrs. at 125-30° in a sealed tube under N gave 6-tropen-3α-yl benzhydryl ether (IX), b0.05 175-85° (decomposition). IX (1.25 g.) in 20 ml. MeCN cooled and treated with 420 mg. CF3CO2H and (with stirring below 25°) CF3CO3H (from 1.56 g. CF3CO2H and 0.22 g. 90% H2O2) and stirred 30 min. gave scopine benzhydryl ether (X); hydrochloride m. 212-14° (decomposition). 2,5-Dimethoxy-2,5-dihydrofuran (65 g.) in 1.25 ml. 3N HCl kept 24 hrs., filtered, neutralized with 620 ml. 6N NaOH, and poured into 150 ml. acetonedicarboxylic acid, 82 g. EtNH2.HCl, and 300 g. NaOAc in 8 l. H2O, the pH adjusted to 4.0 with concentrated HCl, and the mixture kept 48 hrs. gave

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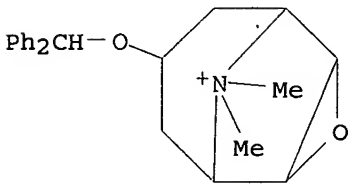
II, b0.8 100-12°, m. 94-6° (C6H6-petr. ether). II was converted to N-ethylnorscopine benzhydryl ether (XI) essentially by the method used in the preparation of X. Intermediates were: N-ethyl-6β-acetoxynortropinone, b0.01 120-3° (5.5 g. from 5.0 g. II) [hydrochloride m. 187-8° (decomposition)]; N-ethyl-6β-acetoxy-3α-nortropanol, b0.03 124-8°; N-ethyl-6β-acetoxy-3α-nortropyl benzhydryl ether [hydrobromide m. 186-9° (decomposition)]; N-ethyl-6β-hydroxy-3α-nortropyl benzhydryl ether, m. 129-31°; N-ethyl-6β-mesyloxy-3α-nortropyl benzhydryl ether [naphthalene-1,5-disulfonate m. 201-2° (decomposition)]; N-ethyl-6-nortropen-3α-yl benzhydryl ether; XI naphthalene-1,5-disulfonate m. 234-6° (decomposition). II (1.0 g.) in MeOH hydrogenated at 45° over Raney Ni gave quant. N-ethyl-3α,6β-dihydroxynortropane, m. 123-5° (Me2CO). Scopine (3 g.) in 5 ml. C6H6 and Ph2CN2 (from 7.5 g. Ph2C:NNHPh and 8.5 g. HgO) refluxed 3 hrs. gave X; methobromide m. 214-15° (decomposition). The 4-ClC6H4CHPh ether of scopine [naphthalene-1,5-disulfonate m. 229-31° (decomposition)] was prepared similarly and separated as the hydrated hydrobromide (XII). The infrared spectra of I, V, VI, VII, VIII, X.HCl, and XII were shown.

IT **114225-19-3P**, O-Diphenylmethyl-N-methylscopinium bromide
RL: PREP (Preparation)
(preparation of)

RN 114225-19-3 CAPLUS

CN O-Diphenylmethyl-N-methylscopinium bromide (6CI) (CA INDEX NAME)



● Br^-

L9 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1961:22903 CAPLUS <<LOGINID::20070221>>

DN 55:22903

OREF 55:4565d-g

TI Benzhydryl tropinyl ethers

PA N. V. Koninklijke Pharmaceutische Fabrieken voorheen Brocades-Stheeman & Pharmacia

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 835860		19600525	GB 1958-17080	19580528
	US 3040049		1962	US	

AB 2-MeC6H4CHPhOH (I) (1.0 mole) and 1.1 moles tropine (I) is heated to 50-60° till homogeneous, 1.15 moles p-MeC6H4SO3H added, the mixture heated 4-5 hrs. at 130-50° in vacuo, cooled, taken up in aqueous NaOH and Et2O, and the Et2O phase treated with dilute aqueous HBr to recover 75% 2-methylbenzhydryl tropinyl ether-HBr (III), m. 223-4° (Me2CO-Et2O); methiodide (IV) m. 212.5-15°. The 2-Et and 2,2'-Me2 analogs of III, m. 180° and 194°, resp., are obtained in 67

Print selected from 10565049_Specific.trn

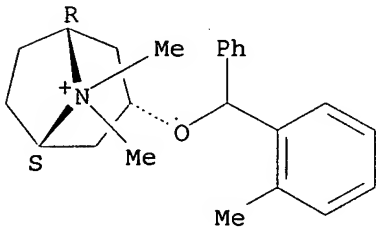
and 70% yields, resp. 3-Chlorotropane and I (1 mole each) heated 15-30 min. at 100-50° with NaNH2 and worked up similarly yields 60% III; 21.6 g. 2-MeC6H4CHClPh and 25.8 g. II give 45% III. 2-Me3CC6H4CHClPh (25.9 g.) and 25.8 g. II give 40% 2-tert-butylbenzhydryl tropinyl ether-HCl, m. 229-30° (Me2CO). Spasmolytic activities and toxicities for the following benzhydryl tropinyl ether hydrobromides are [substituent, anti-BaCl2 activity, antiacetylcholine activity (atropine sulfate 100), and L.D.50 in mg./kg. (mouse, intravenously)]: H, 100, 100, 20-5; 2-Me, 160, 400, 25-30; 3-Me, -, 42, 20-5; 4-Me, -, 31, 20-5. IV has an antiacetylcholine activity 1200 and L.D.50 3.5.

IT **119949-50-7P**, 8-Methyl-3α-(α-o-tolylbenzyloxy)tropanium iodide
RL: PREP (Preparation)
(preparation of)

RN 119949-50-7 CAPLUS

CN 8-Methyl-3α-(α-o-tolylbenzyloxy)tropanium iodide (6CI) (CA INDEX NAME)

Relative stereochemistry.



● I⁻

L9 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1960:91862 CAPLUS <<LOGINID::20070221>>

DN 54:91862

OREF 54:17447e-i,17448a-i,17449a

TI Scopine ethers

IN Jucker, Ernst; Lindenmann, Adolf J.

PA Sandoz Ltd.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2933501		19600419	US	
	CH 359706			CH	
	CH 360067			CH	
	CH 363658			CH	
	DE 1102167			DE	
	GB 897729			GB	

OS CASREACT 54:91862

AB The preparation of scopine and norscopine benzhydryl and substituted benzhydryl ethers is described. These compds. have stimulatory action on spinal reflexes and are also central stimulants. Scopine (I) (3 g.), 5 cc. anhydrous C6H6, and diphenyldiazomethane (from 7.5 g. benzophenone hydrazone and 8.5 g. HgO) refluxed 5 hours at 80-5°, 45 cc. C6H6 and 600 cc. 0.5% cold HCl added to the cooled mixture, the aqueous layer washed with 60 cc.

C6H6 and with 120 cc. Et2O, cooled, made alkaline with 30% NaOH, and extracted with C6H6, the exts. dried, and distilled in vacuo to remove C6H6 ppts. on addition of MeOH-HCl to the cooled residue scopine benzhydryl ether-HCl (II), decomposing at 212-14° (MeOH-Et2O). 6β-Hydroxytropinone (25 g.), 150 cc. anhydrous pyridine, and 100 cc. Ac2O kept at room temperature 48 hours, the major portion of the solvents distilled in vacuo, the residue taken up in CHCl3, the solution washed with cold saturated aqueous Na2CO3, and distilled in vacuo yields 6β-acetoxytropinone (III), b0.8 129-32°; hydrobromide decompose at 192-4° (MeOH-Et2O); hydrochloride decompose at 199-200° (MeOH-Et2O). III in anhydrous MeOH hydrogenated 8 hrs. at 45° with Raney Ni at 60 atmospheric initial pressure and the filtrate distilled in vacuo gives hygroscopic 6β-acetoxytropine (IV), b0.08 130-3°; 1,5-naphthalenedisulfonate decompose at 237-9° (MeOH-Et2O). Diphenylbromomethane (13.6 g.) and 6 cc. absolute C6H6 added over 1 hr. dropwise with stirring at 110° to 10 g. IV and 2.6 g. Na2CO3, the stirred mixture kept at 125° 4 hrs., 100 cc. each H2O and C6H6 added, the aqueous layer extracted with C6H6, the combined C6H6 exts. extracted with cold 2N HCl, the acid extract washed with Et2O, made alkaline with cold 30% aqueous NaOH, extracted with C6H6, the extract dried, and distilled in vacuo to remove C6H6 gives 6β-acetoxytropine 3α-benzhydryl ether (V), m. 109-11° (C6H6). V (10 g.), 40 cc. EtOH, and 20 cc. aqueous 3N NaOH heated 1 hr. at 70°, the EtOH distilled in vacuo, the residue extracted with CHCl3, the extract washed with saturated NaCl solution, dried, and distilled in vacuo to remove CHCl3 yields 6β-hydroxytropine 3α-benzhydryl ether (V1), m. 134-6° (C6H6 or C6H6-petr. ether). VI (12 g.), 3 cc. anhydrous CHCl3, and 3 cc. absolute pyridine treated with 2.88 cc. methanesulfonyl chloride, the mixture kept at room temperature 50 min., refluxed 5 hrs., cooled, 85 cc. CHCl3 added, the solution extracted with H2O and dried, and the CHCl3 distilled in vacuo gaves 6β-mesyloxytropine 3α-benzhydryl ether (VII), m. 87-9° (C6H6-petr. ether); 1,5-naphthalenedisulfonate decompose at 194-5° (MeOH-Et2O). Triethylamine may also be used as catalyst in the preparation of VII. VII (2.25 g.), 4.5 cc. triethylamine, and 0.3 cc. diethylaniline heated in a sealed tube under N 2 hrs. at 125-35°, the contents strongly cooled, the bright yellow solution decanted, concentrated in vacuo, taken up in 50 cc. CHCl3, a solution dried and distilled in vacuo yields 6-tropenyl 3α-benzhydryl ether (VIII), b0.05 175-85° (partial decomposition). VIII (1.25 g.) in 20 cc. acetonitrile treated with cooling with 420 mg. trifluoroacetic acid, the stirred mixture treated at 25° over 30 min. with a solution of trifluoroperacetic acid (from 1.56 g. trifluoroacetic anhydride and 0.22 g. 90% H2O2) in 10 cc. methylene chloride, the mixture stirred 30 min. at room temperature, 100 cc. H2O added, the solution made alkaline with 30% aqueous NaOH and extracted with CHCl3, the extract dried, evaporated in vacuo, and the calculated amount of MeOH-HCl added ppts. II on addition of Et2O. II is converted by the usual methods to the free base which forms an H oxalate on addition of oxalic acid to its MeOH solution (with 1 mole MeOH of crystallization) and a methobromide, decompose at 214-15° (MeOH-Me2COEt2O). IV (4 g.), 5 cc. C6H6, and diphenyldiazomethane (from 7.9 g. benzophenone hydrazone and 8.8 g. HgO) refluxed at 85-90°5 hrs., the cooled mixture treated with 100 cc. C6H6 and 850 cc. 0.5% HCl, the aqueous layer washed

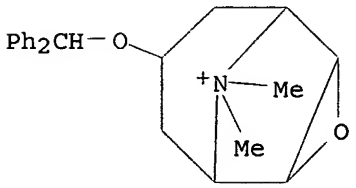
with C6H6 and Et2O, made alkaline, and worked up as in the previous preparation gives V. 6β-(Phenylcarbamoyloxy)tropine (2.76 g.) and 2.47 g. diphenylbromomethane treated as in the similar preparation of V gives 6β-(phenylcarbamoyloxy)tropine 3α-benzhydryl ether (IX), m. 154-6° (C6H6-petr. ether), purified via the hydrochloride. IX heated slowly at 0.05 mm. evolves gas at 195° and yields VI, b0.15 230-40°. 3α,6β-Dihydroxytropane (3 g.) and 9.4 g. diphenylbromomethane treated as in the similar preparation of V gives VI.HBr, decompose at 237-9° (MeOH-Et2O); the isomeric 3α-hydroxytropine 6β-benzhydryl ether [m. 146-8° (acetone-petr. ether); hydrobromide decompose at 217-19° (MeOH-Et2O)] is obtained from the filtrate (C6H6-H2O). Malaldehyde (from hydrolysis of 88 g. 2,5-diethoxy-3-hydroxytetrahydrofuran with 2 l. 0.1N HCl), 150 g. acetonedicarboxylic acid, 82 g. EtNH2.HCl,340 g. NaOAc, and 10 l. H2O is adjusted to pH 4 and kept 48 hrs. at room temperature until the pH is 5 and CO2 evolution stops. K2CO3 (2.5 kg.) is added, the solution extracted with CHCl3, and the extract dried and evaporated in vacuo to give N-ethyl-6β-hydroxynortropinone (X), light yellow oil, b0.8 100-12°, m. 94-6° (C6H6-petr. ether). X acetylated as in the preparation of III gives N-ethyl-6β-acetoxynortropinone (XI), b0.01 120-3°; hydrobromide decompose at 187-8° (MeOH-Et2O). XI reduced with Raney Ni as in the preparation of IV yields N-ethyl-6β-acetoxynortropine (XII), b0.03 124-8°. XII treated with diphenylbromomethane as in the similar preparation of V (except that at the end dry HBr is passed into the solution of the free base in absolute Et2O) gives N-ethyl-6β-acetoxynortropine 3α-benzhydryl ether-HBr (XIII), decompose at 186-9° (MeOH-Et2O). The free base of XIII hydrolyzed with alc. NaOH as in the similar preparation of VI yields N-ethyl-6β-hydroxynortropine 3α-benzhydryl ether (XIV), m. 129-31° (C6H6-petr. ether). XIV treated as in the preparation of VII gives N-ethyl-6β-(mesyloxy)nortropine 3α-benzhydryl ether (XV) (purified by chromatography on alumina); 1,5-naphthalenedisulfonate decompose at 180-1° (MeOH-Et2O). XV treated as in the preparation of VIII gives N-ethyl-6-nortropenyl 3α-benzhydryl ether, which treated as in the similar preparation of II yields N-ethylnorscopine 3α-benzhydryl ether [1,5-naphthalenedisulfonate decompose at 234-6° (MeOH-Et2O)]. 4-Chlorodiphenylchloromethane (9.4 g.) and 7.9 g. IV treated as in the preparation of V gives 6β-acetoxytropine 3α-(4-chlorobenzhydryl) ether (XVI) [1,5-naphthalenedisulfonate decompose at 234-5°; hydrobromide decompose at 242-3° (MeOH-Et2O)]. XVI is converted to 6β-hydroxytropine 3α-(4-chlorobenzhydryl) ether (XVII), m. 96-8° (C6H6-petr. ether), by hydrolysis with aqueous-alc. NaOH. XVII treated as in the preparation of VII forms 6β-(mesyloxy)tropine 3α-(4-chlorobenzhydryl) ether (XVIII) [(1,5-naphthalenedisulfonate decompose at 185-7° (MeOH)]. XVIII yields 6-tropenyl 3α-(4-chlorobenzhydryl)ether and scopine 4-chlorobenzhydryl ether [1,5-naphthalenedisulfonate decompose at 223-8° (MeOH-Et2O)] when treated as in the preparation of VIII and of scopine benzhydryl ether. II is also obtained by treatment of I with diphenylbromomethane as in the preparation of V.

IT **114225-19-3P**, O-Diphenylmethyl-N-methylscopinium bromide
RL: PREP (Preparation)
(preparation of)

RN 114225-19-3 CAPLUS

CN O-Diphenylmethyl-N-methylscopinium bromide (6CI) (CA INDEX NAME)

Print selected from 10565049_Specific.trn



● Br^-

L9 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1958:93024 CAPLUS <<LOGINID::20070221>>
DN 52:93024
OREF 52:16402b-f
TI 8-Alkylnortropane derivatives
IN Zirkle, Charles L.
PA Smith, Kline & French Laboratories
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2800482		19570723	US 1955-519650	19550701

AB 3-Benzhydrylidenetropane picrate m. 237-8° (aqueous alc.); methobromide, m. 281-5° (iso-PrOH-Me2CO); etho(ethyl sulfate), white solid. Di(2-thienyl)-3-tropanylcarbinol (0.5 g.) in CHCl3 treated with dry HCl until strongly acid gave 2-[di(2-thienyl)methylidene]tropane-HCl, m. 224-5° (alc. Et2O). 1,1-Di(2-thienyl)-3-tropaneethanol (1 g.), 2 g. (CO2H)2, and 3 ml. H2O refluxed 2 hrs. gave 1,1-di(2-thienyl)-2-(3-tropanyl)ethylene, m. 74-6° (ligroine); picrate, m. 190-2° (aqueous Me2CO); HCl salt, m. 230-2° (alc. Et2O); methobromide, m. 252-3°. 1,1-Diphenyl-2-(3-tropanyl)ethylene methobromide, m. 286° (alc.); maleate; metho-p-toluene-sulfonate, white solid. 1-Phenyl-1-(2-thienyl)-3-tropaneethanol (9.7 g.), 19.4 g. (CO2H)2, and 29 ml. H2O refluxed 2 hrs. and the mixture made alkaline gave 1-phenyl-1-(2-thienyl)-2-(3-tropanyl)ethylene, m. 69-72°; picrate, m. 209-10°; tartrate, m. 174-5° (alc.-Et2O); methobromide, m. 258-9° (alc.-Et2O). 1-Phenyl-1-(2-pyridyl)-2-(3-tropanyl) ethylene methobromide, m. 228-30° (alc.-Et2O); tartrate, m. 165-7° (alc.-Et2O). 1-(2-Cyclohexylethyl)-1-phenyl-3-tropaneethanol (1 g.) in 10 ml. AcOH and 3 ml. 37% HCl refluxed 0.5 hr. gave the dehydration product, λ 235 mμ, log ε 3.58. 1-Cyclohexyl-1-phenyl-2-(3-tropanyl) ethylene-HI, m. 222.5-4.0°; methobromide, m. 250-3° (H2O); butiodide, white solid. 1,1-Diphenyl-3-tropanepropanol (15 g.) in 50 ml. 37% HCl 1.5 hrs. at 100° gave 1,1-diphenyl-3-(3-tropane-1-propene, m. 59-60°, b0.4 170-3°; citrate, m. 174°. 1-(2-Pyridyl-1-p-tolyl-4-(3-tropanyl)-1-butanol (0.5 g.) and 2 ml. 85% H2SO4 heated 15 min. at 155° gave 1-(2-pyridyl)-1-p-tolyl-4-(3-tropanyl)-1-butene. A similar dehydration of 1-cyclopentyl-1-phenyl-3-tropanebutanol with HCl gave the corresponding butene as the HCl salt; neutralization with NH4OH gave the free base as a yellow oil.

IT **124145-26-2P**, 8-Ethyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium ethyl sulfate
RL: PREP (Preparation)
(preparation of)

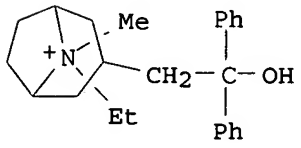
RN 124145-26-2 CAPLUS

Print selected from 10565049_Specific.trn

CN 8-Ethyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium ethyl sulfate (6CI) (CA INDEX NAME)

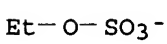
CM 1

CRN 124145-25-1
CMF C24 H32 N O



CM 2

CRN 48028-76-8
CMF C2 H5 O4 S



L9 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1958:93023 CAPLUS <<LOGINID::20070221>>
DN 52:93023
OREF 52:16401g-i,16402a-b
TI 8-Alkylnortropane derivatives
IN Zirkle, Charles L.
PA Smith, Kline & French Laboratories
DT Patent
LA Unavailable
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2800481		19570723	US 1955-519649	19550701

AB Me 3-tropanecarboxylate (10.1 g.) in 100 ml. Et2O stirred 1.5 hrs. at room temperature with PhLi gave diphenyl-3-tropanylcarbinol, m. 214-15° (aqueous MeOH); citrate, m. 112-18° (iso-PrOH-Et2O); methobromide, m. 309-10° (alc.). Et 3-tropaneacetate (I) (10 g.) in 20 ml. Et2O refluxed with PhLi and 11.8 g. thiophene in Et2O gave 1,1-di(2-thienyl 3-tropaneethanol, m. 138-40° (EtOAc); acetate, m. 189-90°; methobromide, m. 245.5° (alc.). 1,1-Diphenyl-3-tropaneethanol-HCl, m. 234-5° (alc.-Et2O); methobromide, m. 282-3° (alc.-Et2O). I with concentrated HCl gave 3-tropaneacetic acid-HCl (II), m. 172-4°. II (11 g.) refluxed with PhLi gave Ph 3-tropanylmethyl ketone (III), b0.2 138-41°. III (9 g.) stirred several hrs. at room temperature with PhLi gave 1,1-diphenyl-3-tropaneethanol-HBr, m. 230°. III (10 g.) treated with PhLi and thiophene gave 1-phenyl-1-(2-thienyl)-3-tropaneethanol, m. 137.5-9.0°; maleate, m. 145-6° (alc.-Et2O); methobromide, m. 256° (alc.). 1-Phenyl-1-(2-pyridyl)-3-tropaneethanol-HI, m. 194-6°; methobromide, m. 268° (alc.). 1-Ethyl-1-phenyl-3-tropaneethanol-HCl, m. 237-7.5° (alc.). 1-Cyclohexyl-1-phenyl-3-tropaneethanol-HCl, m. 254-5° (alc.-Et2O); methobromide, m. 262° (alc.-Et2O). 2-Cyclohexylethyl 3-tropanylmethyl ketone picrate, m. 148-50°; 1-(2-cyclohexylethyl)-

Print selected from 10565049_Specific.trn

1-phenyl-3-tropaneethanol-HCl, m. 215-16°; citrate, m. 134-6° (Me2CO-MeOH); methobromide, m. 263-5°. II (3.7 g.) treated with SOCl2 gave the acid chloride HCl salt which treated with CH2N2 gave the diazomethyl 3-tropanylmethyl ketone and subsequent treatment with Ag2O oxide gave Et 3-tropanepropionate (IV). IV (18 g.) treated with PhLi as above gave 1,1-diphenyl-3-tropanepropanol, m. 141-2.5°; HCl salt, m. 249-50°; methobromide salt, m. 299°. Cyclopentyl 3-(3-tropanyl)propyl ketone (6.6 g.) treated with PhLi as above gave 1-cyclopentyl-1-phenyl-3-tropanebutanol. Diphenyl-3-tropanecarbinol etho(ethyl sulfate) was a white solid. 1,1-Diphenyl-3-tropaneethanol metho-p-toluenesulfonate, m. 172-4°; etho(ethyl sulfate), m. 234-5°; butobromide, m. 225-7°; butiodide, m. 227-9°. 1-Cyclohexyl-1-phenyl-2-(3-tropane)ethanol butyl bromide was a white solid.

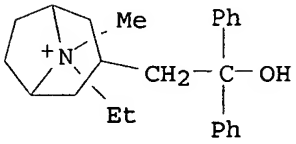
IT **124145-26-2P**, 8-Ethyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium ethyl sulfate
RL: PREP (Preparation)
(preparation of)

RN 124145-26-2 CAPLUS

CN 8-Ethyl-3-(2-hydroxy-2,2-diphenylethyl)tropanium ethyl sulfate (6CI) (CA INDEX NAME)

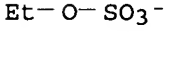
CM 1

CRN 124145-25-1
CMF C24 H32 N O



CM 2

CRN 48028-76-8
CMF C2 H5 O4 S



L9 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1958:93020 CAPLUS <<LOGINID::20070221>>
DN 52:93020
OREF 52:16399b-i,16400a-i,16401a
TI 8-Alkylnortropane derivatives
IN Zirkle, Charles L.
PA Smith, Kline & French Laboratories
DT Patent
LA Unavailable
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2800478		19570723	US 1955-519646	19550701

AB Some new physiologically active 3-substituted-8-alkylnortropanes, the

nontoxic organic and inorg. salts, and the quaternary ammonium salts are described. Me 3-(3-hydroxytropane)carboxylate (10 g.) in 50 ml. Ac2O heated 4 hrs. at 100°, the excess Ac2O and AcOH removed in vacuo, the residue poured into H2O, extracted with Et2O, and the Et2O evaporated gave Me 3-(3-acetoxytropane)-carboxylate (I), m. 66-7°, b15 162-5°. I (29 g.) added dropwise during 7 min. to a vertical tube heated to 420° and filled with pieces of Pyrex tubing, the apparatus swept with N, the product dissolved in dilute HCl, extracted with Et2O, the aqueous acid solution saturated with K2CO3, and the product separated gave Me 3-(2-tropene)carboxylate (II), b15 131-4°, n25.5D 1.4998. II (13 g.) in 100 ml. MeOH hydrogenated over 5 g. Raney Ni at 50 lb./sq. in. at room temperature and the mixture distilled gave Me 3-tropanecarboxylate (III), b18 128-32°, n25D 1.4819. III (10.1 g.) in 100 ml. Et2O stirred 1.5 hrs. at room temperature with a solution of PhLi (from 34.5 g. PhBr and 3.5 g. Li) in 100 ml. Et2O, the mixture added to 150 ml. H2O, and the solid collected and purified gave diphenyl-3-tropanecarbinol (IV), m. 185.5-6.0° (EtOAc). IV (5.6 g.) in 20 ml. AcOH and 25 ml. dilute HCl refluxed 10 min. and evaporated to dryness gave 3-benzhydrylidenetropane-HCl, m. 275-8° (alc.-Et2O); free base (V), a colorless oil. V (4 g.) in alc. hydrogenated over Raney Ni at 400 lb./sq. in. at 60° and the product chromatographed on Al2O3 gave 3-benzhydryltropane (VI), m. 70-2°. VI (1 g.) gave the HCl salt, unmelted below 310°; MeBr salt, m. 277-9°; etho(ethyl sulfate), white solid. Tropinone (13.9 g.), 11.3 g. NCCH2CO2Et, 1.6 g. NH4OAc, 7.3 g. AcOH, 20 ml. alc., and 0.6 g. Pd-C shaken under H at 50° and 60 lb./sq. in. gave Et α-cyano-3-tropaneacetate (VII), b0.3 116-18°, n24D 1.4942. VII (8 g.) in 30 ml. 37% HCl refluxed 13 hrs. and the crude 3-tropaneacetic acid-HCl esterified by leaving 3 days at room temperature in 50 ml. alc. with dry HCl gave Et 3-tropaneacetate (VIII), b2 104-5°, n25D 1.4774. VIII (42 g.) in 100 ml. Et2O similarly treated with PhLi gave 1,1-diphenyl-3-tropaneethanol (IX), m. 146.5-7.5° (EtOAc). IX (14.6 g.) in 29 ml. 37% HCl and 100 ml. AcOH refluxed 0.5 hr. gave 1,1-diphenyl-2-(3-tropanyl)ethylene (X), as the HCl salt, m. 217-18° (alc.-Et2O); free X, m. 109.5-10.0° (Me2CO). X (10 g.) in alc. hydrogenated over Raney Ni at 500 lb./sq. in. and 60° gave 1,1-diphenyl-2-(3-tropanyl)ethane, colorless oil; HCl salt, m. 244-5°; methobromide, m. 257-8° (alc.-Et2O); metho-p-toluenesulfonate, white solid; maleate, obtained by treating with maleic acid in alc. VIII in 37% HCl refluxed several hrs. gave 3-tropaneacetic acid-HCl (XI), m. 172-4° (MeOH-Et2O). XI (11 g.) similarly treated with PhLi followed by passage of HCl gave the HCl salt which when washed was reconverted to phenyl 3-tropanylmethyl ketone (XII), b0.2 138-41°. BuLi (from 3.7 g. BuCl and 0.7 g. Li) in 25 ml. Et2O treated slowly at -45° with 5.5 g. 2-bromopyridine in 10 ml. Et2O, the mixture stirred 10 min., and 2.5 g. XII in 30 ml. Et2O added slowly, the mixture stirred 15 min. at -15°, 50 ml. H2O added, the mixture stirred a further 15 min., a solid collected, the solid stirred with CHCl3 and H2O, and the CHCl3 layer removed, combined with the Et2O layer and evaporated gave 1-phenyl-1-(2-pyridyl)-3-tropaneethanol (XIII), m. 117-18.5° (EtOAc). XIII (1 g.) and 2 ml. 85% H2SO4 heated 15 min. at 155° and the solution made basic gave 1-phenyl-1-(2-pyridyl)-2-(3-tropanyl)ethylene (XIV), m. 97.5-9.5° (Me2CO). XIV 0.2 g.), 5 g. cyclohexene, and 0.3 g. 20% Pd-C refluxed 48 hrs. gave 1-phenyl-1-(2-pyridyl)-2-(3-tropanyl)ethane (XV) as a thick oil; picrate, m. 201-3° (aqueous Me2CO). XV also forms the tartrate, m. 78-80° (alc.-Et2O). XII (12.2 g.) in 50 ml. Et2O added slowly to EtMgBr solution (from 7.3 g. Mg) at 0°, the mixture stirred 1.5 hrs. at room temperature, then refluxed 1.5 hrs., decomposed with ice and 21 g. NH4Cl in

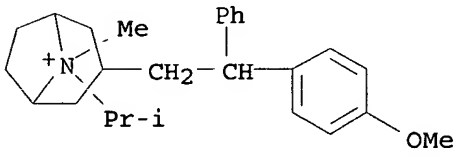
50 ml. H2O, the Et2O layer removed, and the aqueous phase extracted with CHCl3 gave 1-ethyl-1-phenyl-3-tropaneethanol (XVI), m. 119-20°. XVI (0.44 g.) was dehydrated by heating 40 min. at 100° with 3 ml. concentrated HCl to the ethylene, m. 170-200°. The ethylene hydrogenated in alc. over Raney Ni at 60° and 500 lb./sq. in. gave 1-ethyl-1-phenyl-2-(3-tropanyl)ethane (XVII), an oil, which formed an HCl salt. VIII (15 g.) similarly treated with 2-cyclohexylethylmagnesium bromide gave 2-cyclohexylethyl 3-tropanylmethyl ketone (XVIII), b0.7 157-64°, n24.5D 1.5010. XVIII (7.7 g.) in 20 ml. Et2O similarly treated with PhLi (from 9.5 g. PhBr) in Et2O at 0° gave 1-(2-cyclohexylethyl)-1-phenyl-3-tropaneethanol (XIX), m. 104-6° (EtOAc). XIX (0.5 g.), 1 ml. HI, 3 ml. AcOH, and 0.13 g. red P refluxed 3.5 hrs., the solution filtered, the filtrate diluted with H2O, the crude HI salt separated as an oil and crystallized gave 1-(2-cyclohexylethyl)-1-phenyl-2-(3-tropanyl)ethane-HI, m. 175° (alc.-Et2O). The free base was a colorless oil; HCl salt, m. 198-200°. Similarly, 25 g. VIII reacted with cyclohexylmagnesium bromide to give cyclohexyl 3-tropanylmethyl ketone (XX), b0.9-1.1 142-53°, crystallizing to a white solid on standing. XX (10 g.) similarly treated with PhLi gave 1-cyclohexyl-1-phenyl-3-tropaneethanol (XXI), m. 139-40.5° (EtOAc). XXI (1 g.) refluxed 0.5 hr. with AcOH and concentrated HCl gave the ethylene HCl salt, m. 195-6°. Hydrolysis gave the free base as an oil. The free base (4.4 g.) hydrogenated over Raney Ni at 500 lb./sq. in. and 60° gave 1-cyclohexyl-1-phenyl-2-(3 tropanyl)ethane, colorless oil; HCl salt, m. 167-8.5°; citrate, m. 153-5°; butiodide, white solid. N-Isopropylnortropanone (16.7 g.), 11.3 g. NCCH2CO2Et, 1.6 g. NH4OAc, 7.3 g. AcOH, 20 ml. alc., and 0.6 g. Pd-C shaken with H at 60 lb./sq. in. and 60°, the residue refluxed 12 hrs. with concentrated HCl gave crude 3-(N-isopropylnortropane)-acetic acid-HCl which was esterified with anhydrous MeOH and HCl 3 days at room temperature gave Me 3-(N-isopropylnortropane)acetate (XXII), b0.3 124-7°. XXII (11.3 g.) similarly treated with p-anisylmagnesium bromide gave p-anisyl 3-(N-isopropylnortropanyl)methyl ketone (XXIII), b0.2 160-4° and crystallized as a white solid. XXIII (7.5 g.) similarly treated with PhLi at 0° gave 1-(p-anisyl)-1-phenyl-3-(N-isopropylnortropane)ethanol (XXIV), white solid. Dehydration of XXIV with oxalic acid and H2O gave the ethylene, which when hydrogenated as described above gave 1-p-anisyl-1-phenyl-2-[3-(N-isopropylnortropanyl)]ethane; methobromide salt. VIII (164 g.) in 500 ml. Et2O refluxed 3 hrs. with 30 g. LiAlH4 in 2 l. Et2O gave 3-tropaneethanol (XXV), m. 63-4° (C6H6-ligroine). XXV (10 g.) in 50 ml. CHCl3 treated with 14.3 g. SOCl2, refluxed 45 min., and isolation gave 1-chloro-2-(3-tropanyl)ethane-HCl, m. 167-8° (alc.-Et2O); free base, b0.9 81°. The base (47 g.) and 0.1 g. NaI refluxed 17 hrs. with 49 g. KCN in 175 ml. alc. and 75 ml. H2O, NaOH added to the residual mixture, and the product isolated gave 3-tropanepropionitrile (XXVI), b0.3 114-16°, n25D 1.4958. XXVI (25 g.) in 100 ml. 37% HCl refluxed several hrs., and evaporated, the residue dissolved in 300 ml. alc., 5 ml. concentrated H2SO4 added, and the residue treated with 40% NaOH gave Et 3-tropanepropionate (XXVII), b0.4 97-100°, n25D 1.4770. Similarly XXVII treated with PhLi gave 1,1-diphenyl-3-tropanepropanol (XXVIII), m. 141-2.5°. Dehydration of XXVII with concentrated HCl and 40% NaOH added gave 1,1-diphenyl-3-(3-tropanyl)-1-propene (XXIX), b0.4 170-3°, m. 59-60°. XXIX (4.7 g.) hydrogenated over 5 g. Raney Ni gave 1,1-diphenyl-3-(3-tropanyl)propane as an oil; citrate, m. 170°; methobromide, m. 277°. XXVII reduced with 3 g. LiAlH4 gave 3-tropanepropanol (XXX), b2 128-31°. XXX (7.7 g.) treated with 10 g. SOCl2 gave the HCl salt, which treated with K2CO3 liberated 1-chloro-3-(3-tropanyl)propane (XXXI), b1 100-2°. XXXI (5 g.) refluxed 18 hrs. with 0.1 g. NaI, 5 g. KCN, 18 ml. alc., and 8 ml. H2O gave 3-tropanebutyronitrile (XXXII),

b0.3 132-5°. XXXII (3 g.) refluxed several hrs. with concentrated HCl and the product treated with 40% NaOH gave Et 3-tropanebutyrate (XXXIII), b0.5 115-19°. XXXIII (2.3 g.) similarly treated with p-tolyl magnesium bromide gave p-tolyl γ-(3-tropanyl)propyl ketone (XXXIV), b0.2 188-92°. XXXIV (1.5 g.) in 15 ml. Et2O treated with BuLi and 2-bromopyridine in Et2O gave 1-(2-pyridyl)-1-p-tolyl-3-tropanebutanol (XXXV), crystalline solid. XXXV (0.5 g.) dehydrated with 85% H2SO4, and the product reduced as described above gave 1-(2-pyridyl)-1-p-tolyl-4-(3-tropanyl)butane. II (9.2 g.) with MeLi gave dimethyl-3-tropanecarbinol, which was dehydrated by refluxing with AcOH and concentrated HCl, and the product hydrogenated over Raney Ni to give 3-isopropyltropane as an oil. XXII (11.3 g.) treated with C6H13Li gave 1,1-dihexyl-3-(N-isopropylnortropane)ethanol (XXXVI), white solid. XXXVI (8 g.) refluxed 45 min. with AcOH and HCl gave an unsatd. product as the HCl salt which was hydrogenated over Raney Ni to 2-hexyl-1-[3-(N-isopropylnortropanyl)]octane as an oil. XXXIII (14.3 g.) similarly treated with cyclopentylmagnesium bromide gave cyclopentyl 3-(3-tropanyl)propyl ketone (XXXVII), b0.9 152-6°. XXXVII (3.5 g.) dehydrated and the product reduced over Raney Ni gave 1-cyclopentyl-1-phenyl-4-(3-tropanyl)butane, a colorless oil.

IT **124179-30-2P**, 8-Isopropyl-3-(p-methoxy-β-phenylphenethyl)tropanium bromide
RL: PREP (Preparation)
(preparation of)

RN 124179-30-2 CAPLUS

CN 8-Isopropyl-3-(p-methoxy-β-phenylphenethyl)tropanium bromide (6CI) (CA INDEX NAME)



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L9 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1957:91039 CAPLUS <<LOGINID::20070221>>

DN 51:91039

OREF 51:16552e-h

TI Tropine halobenzhydryl ethers

IN Fromer, Stephen

DT Patent

LA Unavailable

FAN.CNT 1

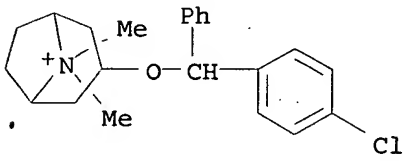
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 769282		19570306	GB	

AB Halobenzophenone hydrazone derivs. are oxidized to the azomethane derivs. which are then condensed with tropine to form new ethers or ether salts useful as antispasmodics and antihistamines. 4-Chlorobenzophenone (90 g.), 23 g. anhydrous N2H4, and 110 ml. anhydrous EtOH were held in a bomb 4 hrs. at 150°. The product was diluted with 400 ml. H2O and extracted with two 200-ml. portions Et2O. The ether after drying with MgSO4 as concentrated to a

residue of 105 g. which was dissolved in 450 ml. petr. ether. With good agitation in a flask with reflux condenser at room temperature 87 g. HgO was added over 15 min. and stirred overnight. The petr. ether and washings were vacuum concentrated below 40° to a residue, to which was added 56 g. tropine in 35 ml. benzene, and the mixture refluxed 24 hrs. The mixture in benzene was extracted with 2N H_2SO_4, alkalized and taken up in Et_2O. After drying with K_2CO_3, it was converted to its HCl salt with alc. I-ICI. The ethers may be derived from p-Cl, p-Br, p-I, p,p'-Cl_2, o-Cl, or 2,4-Cl_2 derivs. of benzophenone. The compds. are ordinarily supplied as the HCl or other salt or as quaternary ammonium compds., e.g., with MeBr.

IT **115048-66-3P**, 3-(p-Chloro-α-phenylbenzyloxy)-8-methyltropanium bromide **115048-74-3P**, 3-(o-Chloro-α-phenylbenzyloxy)-8-methyltropanium bromide
RL: PREP (Preparation)
(preparation of)

RN 115048-66-3 CAPLUS
CN 3-(p-Chloro-α-phenylbenzyloxy)-8-methyltropanium bromide (6CI) (CA INDEX NAME)



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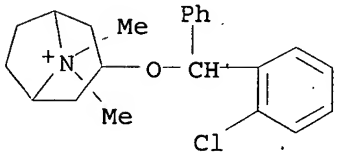
RN 115048-74-3 CAPLUS
CN 3-(o-Chloro-α-phenylbenzyloxy)-8-methyltropanium bromide (6CI) (CA INDEX NAME)



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